

CONSTRUCTION PLANS FOR CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS – PHASE II JANUARY 2017

(REV. MAY 2017)

INDEX OF DRAWINGS

CITY COUNCIL

GARY JONES, MAYOR
ERIC BLAIR
VICKIE COOK
SYLVIA MARTIN
DENNIS O. TRUDEAU

PUBLIC WORKS DIRECTOR

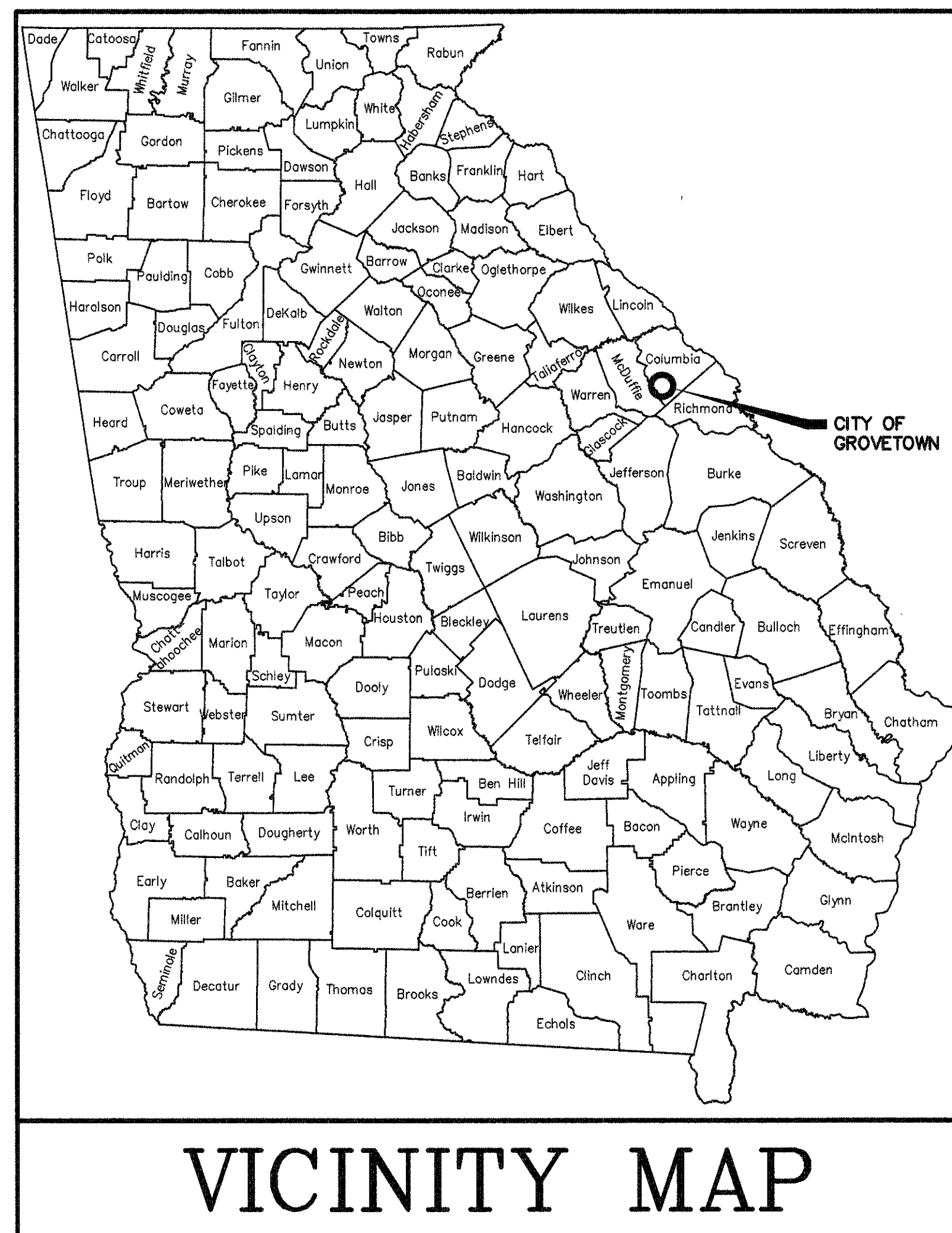
MICHAEL WOODS

OPERATIONS MANAGER

RAYMOND FULCHER

CITY ADMINISTRATOR

SHIRLEY BEASLEY



SHEET	TITLE	SHEET	TITLE
1.	PROJECT MAP	40.	SLUDGE DEWATERING BUILDING HVAC PLAN
2.	OVERALL SITE PLAN	41.	CHEMICAL STRUCTURE PLANS & DETAILS
3.	SPRAYFIELD DEMOLITION PLAN	42.	CHEMICAL STRUCTURE SECTIONS & DETAILS
4.	ROAD PROFILES	43.	BLOWER & MAINTENANCE BUILDING FOUNDATION & ROOF PLANS
5.	GRADING PLAN	44.	BLOWER & MAINTENANCE BUILDING PLAN & DETAILS
6.	PIPING PLAN	45.	BLOWER & MAINTENANCE BUILDING SECTIONS & DETAILS
7.	INTERMEDIATE PIPING PLAN	46.	BLOWER & MAINTENANCE BUILDING ELEVATIONS & DETAILS
8.	STAKING PLAN	47.	CONTROL BUILDING FOUNDATION & ROOF PLANS
9.	RAW SEWAGE FORCE MAIN PROFILES	48.	CONTROL BUILDING PLANS & DETAILS
10.	PLANT DRAIN PROFILES	49.	CONTROL BUILDING SECTIONS & DETAILS
11.	PLANT PIPING PROFILES	50.	CONTROL BUILDING ELEVATIONS & DETAILS
12.	OVERFLOW TO POND & EFFLUENT FORCE MAIN PROFILES	51.	CONTROL BUILDING PLUMBING PLAN & DETAILS
13.	HYDRAULIC PROFILE	52.	CONTROL BUILDING HVAC PLAN
14.	PLANT FLOW SCHEMATIC	53.	ELECTRICAL SITE PLAN
15.	SBR NO. 1 & 2 FOUNDATION & WALL PLAN	54.	SBR ELECTRICAL PLAN
16.	SBR NO. 1 & 2 TOP PLAN	55.	EFFLUENT STRUCTURE ELECTRICAL PLAN
17.	SBR NO. 3 & 4 FOUNDATION & WALL PLAN	56.	BLOWER & MAINTENANCE BUILDING ELECTRICAL PLANS
18.	SBR NO. 3 & 4 TOP PLAN	57.	AEROBIC DIGESTER & CHEMICAL STRUCTURE ELECTRICAL PLANS
19.	SBR EFFLUENT CHAMBER PLAN & SECTIONS	58.	SLUDGE DEWATERING BUILDING ELECTRICAL PLANS
20.	SBR SECTIONS & DETAILS	59.	CONTROL BUILDING ELECTRICAL PLANS
21.	SBR STAIR & LADDER PLANS, SECTIONS & DETAILS	60.	ELECTRICAL SINGLE LINE DIAGRAMS
22.	SBR SECTIONS & DETAILS	61.	ELECTRICAL ELEVATIONS
23.	FILTER, U.V., & FLUME STRUCTURE PLANS	62.	ELECTRICAL SCHEDULES
24.	FILTER, U.V., & FLUME STRUCTURE PLANS	63.	ELECTRICAL ELEMENTARY DIAGRAMS
25.	FILTER, U.V., & FLUME STRUCTURE SECTIONS	64.	CONTROL WIRING DIAGRAM
26.	FILTER, U.V., & FLUME STRUCTURE SECTIONS	65.	ELECTRICAL SYMBOLS & DETAILS
27.	PLANT & EFFLUENT PUMP STATION PLANS	66.	STRUCTURAL NOTES & DETAILS
28.	PLANT & EFFLUENT PUMP STATION PLANS	67.	MISCELLANEOUS METALS NOTES & DETAILS
29.	PLANT & EFFLUENT PUMP STATION SECTIONS	68.	STANDARD SEWER & MANHOLE DETAILS
30.	PLANT & EFFLUENT PUMP STATION SECTIONS	69.	ARCHITECTURAL & MASONRY DETAILS
31.	AEROBIC DIGESTER BOTTOM PLAN	70.	WINDOW & DOOR SCHEDULES
32.	AEROBIC DIGESTER TOP PLAN & DETAILS	71.	MISCELLANEOUS DETAILS
33.	AEROBIC DIGESTER SECTIONS & DETAILS	72.	INITIAL EROSION CONTROL PLAN
34.	SLUDGE DEWATERING BUILDING FOUNDATION & STRUCTURAL FLOOR PLAN	73.	INTERMEDIATE EROSION CONTROL PLAN
35.	SLUDGE DEWATERING BUILDING MECHANICAL FLOOR PLAN & ROOF PLAN	74.	FINAL EROSION CONTROL PLAN
36.	SLUDGE DEWATERING BUILDING SECTIONS & DETAILS	75.	EROSION SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
37.	SLUDGE DEWATERING BUILDING SECTIONS & DETAILS	76.	EROSION SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
38.	SLUDGE DEWATERING BUILDING SECTIONS & DETAILS	77.	EROSION SEDIMENTATION & POLLUTION CONTROL PLAN DETAILS
39.	SLUDGE DEWATERING BUILDING ELEVATIONS		

OWNER:
CITY OF GROVETOWN, GEORGIA
P.O. BOX 120
GROVETOWN, GEORGIA 30813-0120
PHONE: (706) 863-4576
FAX: (706) 868-9312



G. BEN TURNIPSEED ENGINEERS

Environmental - Civil - Hydraulic

ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA

4210 COLUMBIA ROAD, BLDG 3
AUGUSTA, GEORGIA 30907

PHONE : 706 - 863 - 8800
FAX : 706 - 860 - 0913

LICENSED PROFESSIONAL CERTIFICATION
"I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATION DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."
NAME: _____
LICENSE NUMBER: _____ EXPIRATION DATE: _____

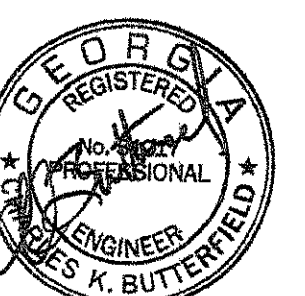
ALL EROSION CONTROL MEASURES MUST BE IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITY.

ALL CONSTRUCTION PERMITS, EASEMENTS OR RIGHTS-OF-WAY REQUIRED TO BEGIN CONSTRUCTION WILL BE OBTAINED PRIOR TO CONSTRUCTION.

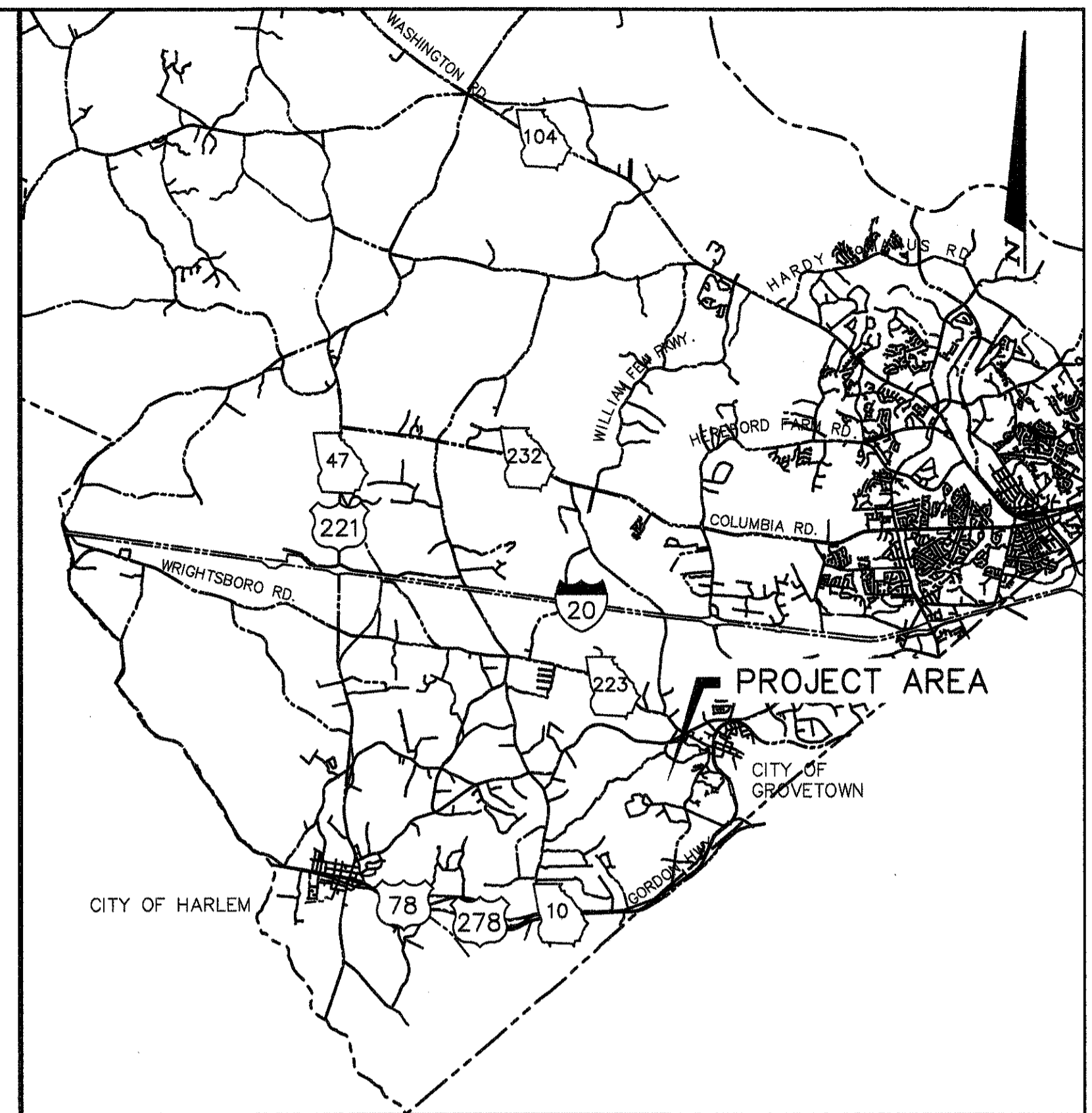
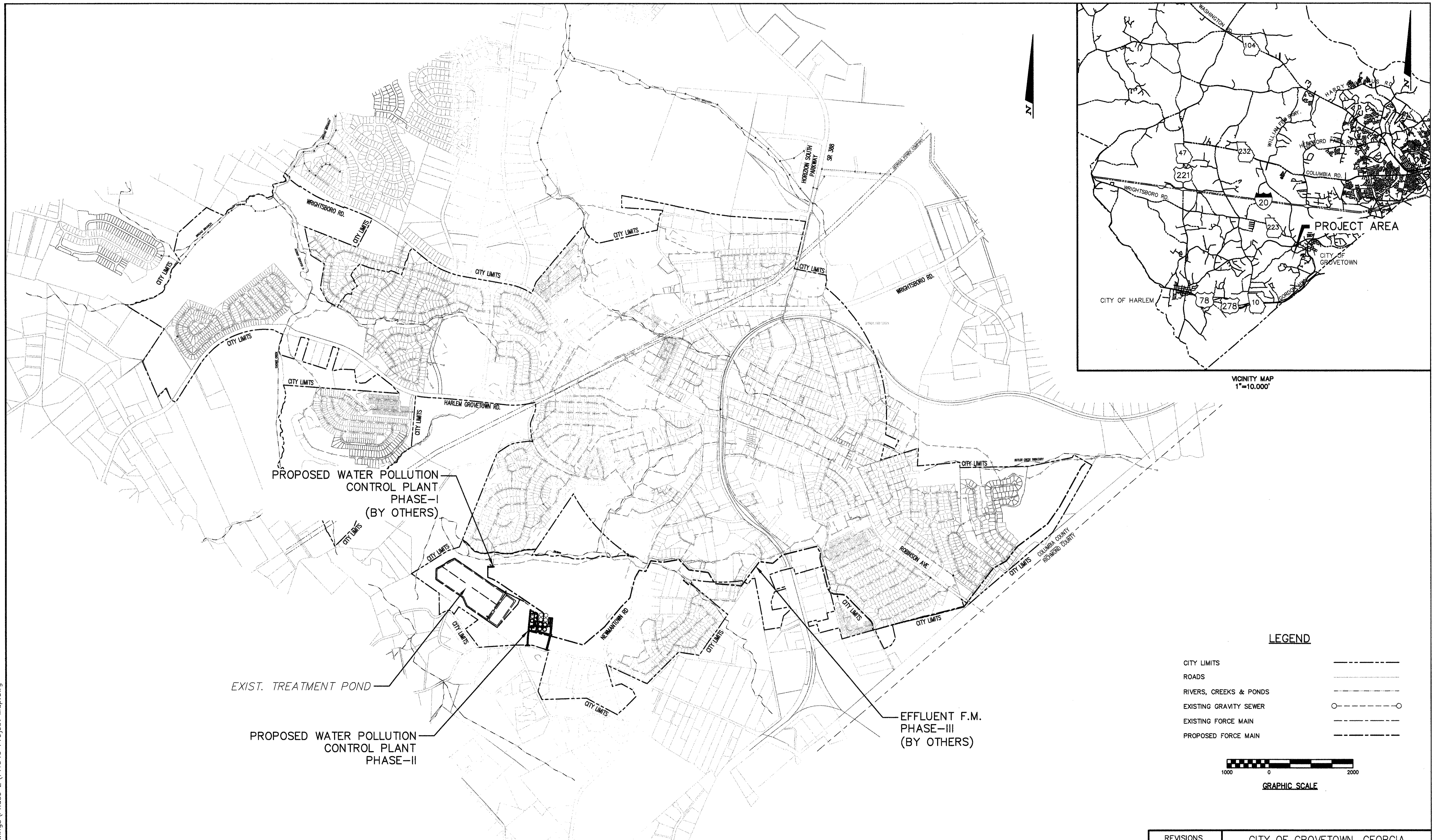
City of Grovetown
Water Pollution Control Plant - Phase II
Job No. 141946
Bid Set No. 19

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G. BEN TURNIPSEED ENGRS. INC.



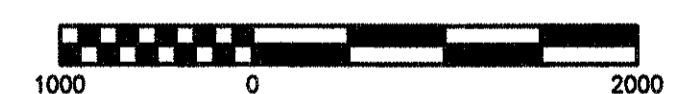
Know what's below.
Call before you dig.



VICINITY MAP
1"=10,000'

LEGEND

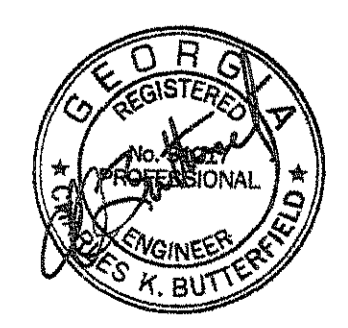
- CITY LIMITS -----
- ROADS -----
- RIVERS, CREEKS & PONDS -----
- EXISTING GRAVITY SEWER ○-----○
- EXISTING FORCE MAIN -----
- PROPOSED FORCE MAIN -----

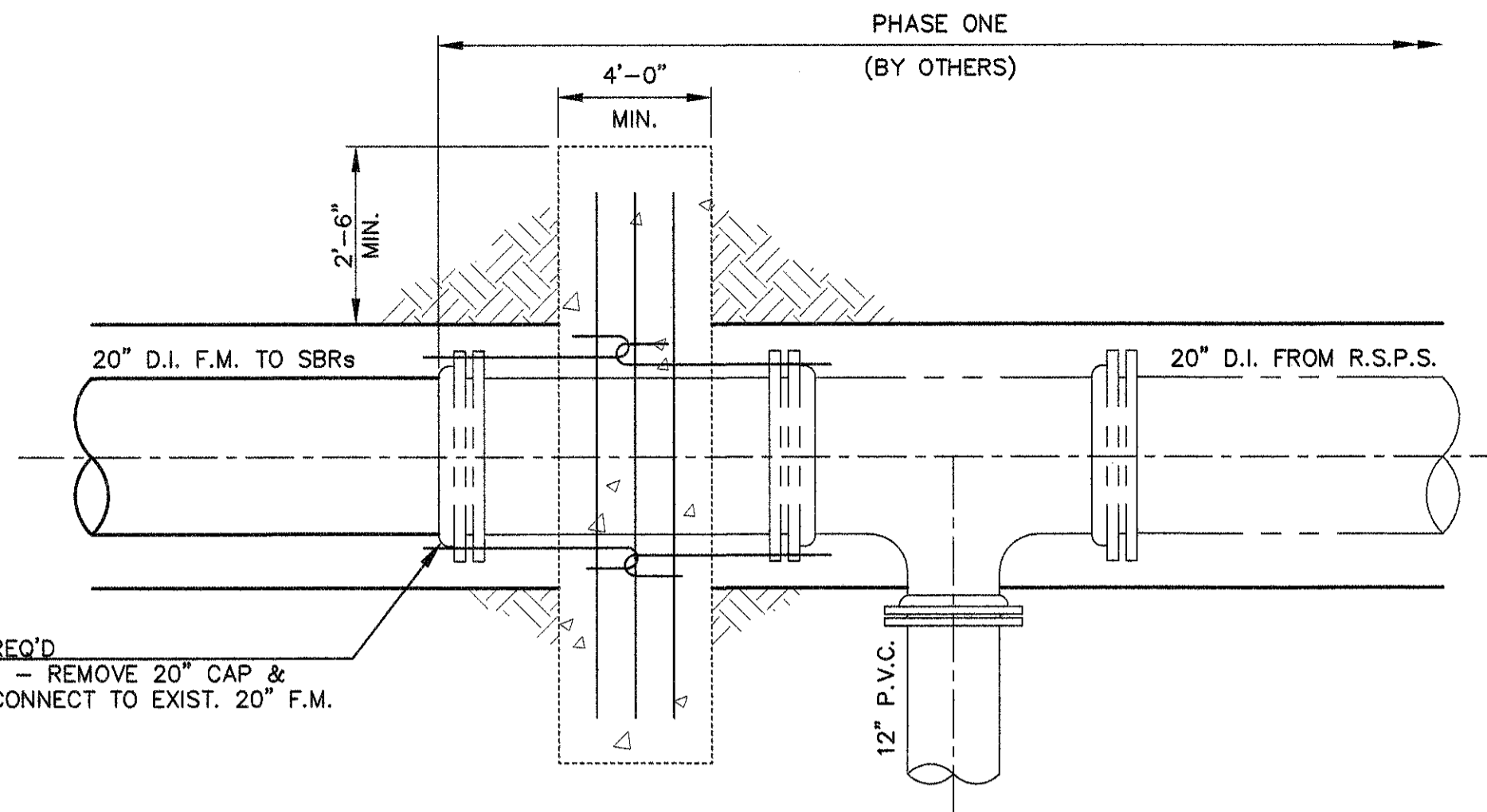
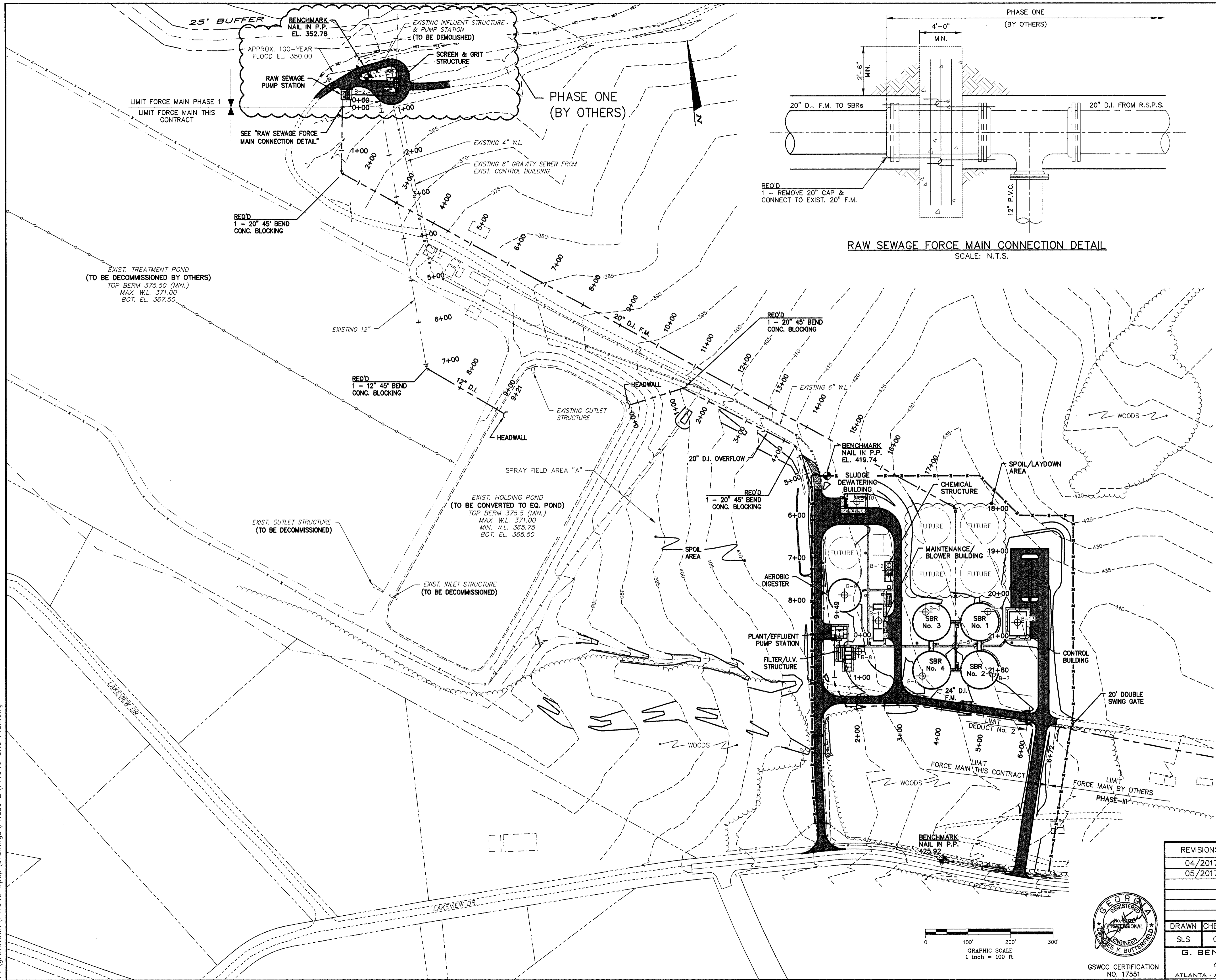


GRAPHIC SCALE

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REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
PROJECT MAP			
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 1 OF 77





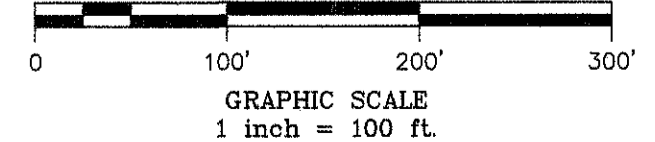
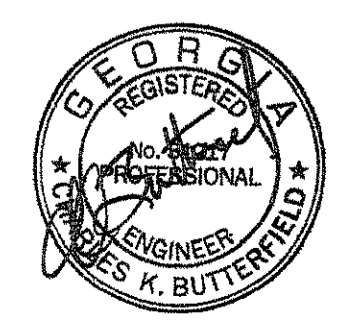
RAW SEWAGE FORCE MAIN CONNECTION DETAIL
SCALE: N.T.S.

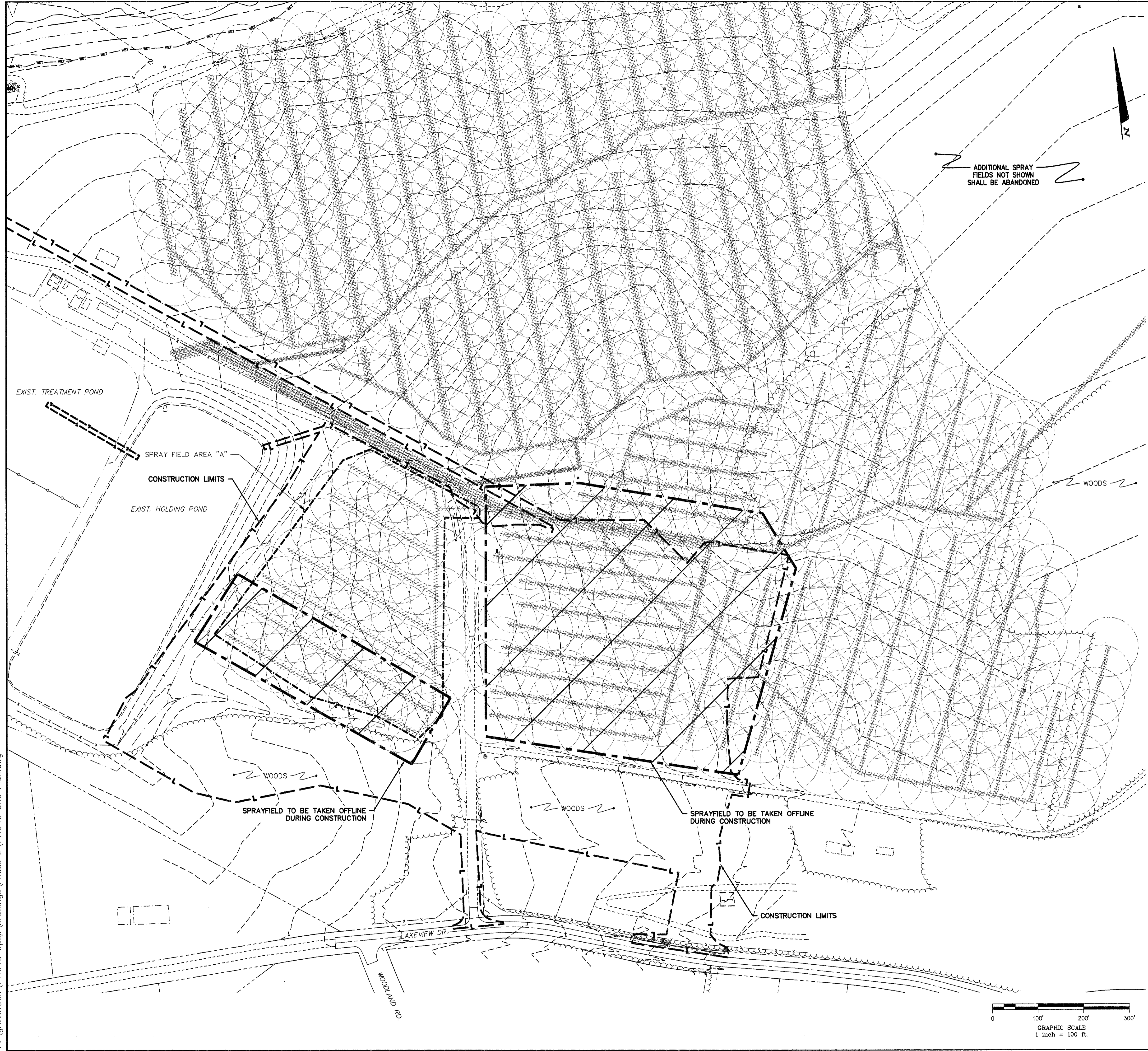
LEGEND

	EXISTING	PROPOSED	FUTURE
STRUCTURE	[Dashed outline]	[Solid outline]	[Dotted outline]
ROADWAY	[Dashed line]	[Solid line]	[Dotted line]
GRAVEL DRIVE	[Dashed line]	[Stippled area]	[Dotted line]
SIDEWALK	[Dashed line]	[Stippled area]	[Dotted line]
CONTOURS	[Dashed line]	[Solid line]	[Dotted line]
FENCE	[Dashed line]	[Solid line]	[Dotted line]
PROPERTY LINE	[Dashed line]	[Solid line]	[Dotted line]
TREE LINE	[Wavy line]	[Solid line]	[Dotted line]
C.I. OR D.I.	[Dashed line]	[Solid line]	[Dotted line]
PIPE	[Dashed line]	[Solid line]	[Dotted line]
CONC. OR V.C.	[Dashed line]	[Solid line]	[Dotted line]
PIPE	[Dashed line]	[Solid line]	[Dotted line]
CHEMICAL LINE	[Dashed line]	[Solid line]	[Dotted line]
AIR LINE	[Dashed line]	[Solid line]	[Dotted line]
REUSE LINE	[Dashed line]	[Solid line]	[Dotted line]
WATER LINE	[Dashed line]	[Solid line]	[Dotted line]
YARD HYDRANT	[Symbol]	[Symbol]	[Symbol]
CLEANOUT	[Symbol]	[Symbol]	[Symbol]
SOIL BORE	[Symbol]	[Symbol]	[Symbol]

- NOTES:**
1. THE 100 YEAR FLOOD ELEVATION IS APPROXIMATELY 350.00 FT. FLOOD ELEVATION IS FROM GEORGIA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION PANEL 13073C0230D.
 2. THE CONTRACTOR WILL ADHERE TO THE WEIGHT LIMITS PRESCRIBED ON COUNTY MAINTAINED ROADS FOR HAULING EQUIPMENT AND/OR MATERIALS TO AND FROM THE PROJECT SITE. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THE STREETS AND/OR UTILITIES DUE TO NON-COMPLIANCE OF WEIGHT LIMIT REGULATIONS.
 3. SPRAYFIELD "A" MAY BE USED FOR SPOIL AFTER THE PLANT IS IN OPERATION.
 4. FOR DUCT No. 2, PROVIDE GRAVEL ACCESS DRIVE IN LIEU OF ASPHALT PAVEMENT.

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		OVERALL SITE PLAN	
05/2017			
DRAWN CHECKED		DATE: JANUARY 2017	
SLS	CKB	G. BEN TURNIPSEED ENGINEERS Environmental, Civil, Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
GSWCC CERTIFICATION NO. 17551		SHEET 2 OF 77	



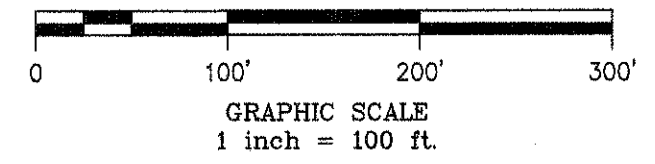


LEGEND

	EXISTING	PROPOSED	FUTURE		EXISTING	PROPOSED
STRUCTURE	[Dashed Box]	[Solid Box]	[Dotted Box]	FENCE	[Dashed Line]	[Solid Line]
ROADWAY	[Dashed Line]	[Solid Line]	[Dotted Line]	PROPERTY LINE	[Dashed Line]	[Solid Line]
GRAVEL DRIVE	[Dashed Line]	[Dotted Line]	[Dotted Line]	TREE LINE	[Wavy Line]	[Wavy Line]
SIDEWALK	[Dashed Line]	[Dotted Line]	[Dotted Line]	C.I. OR D.I. PIPE	[Line with Arrow]	[Line with Arrow]
				CONC. OR V.C. PIPE	[Line with Arrow]	[Line with Arrow]
				CHEMICAL LINE	[Line with Arrow]	[Line with Arrow]
				AIR LINE	[Line with Arrow]	[Line with Arrow]
				REUSE LINE	[Line with Arrow]	[Line with Arrow]
				WATER LINE	[Line with Arrow]	[Line with Arrow]
				YARD HYDRANT	[Symbol]	[Symbol]
				CLEANOUT	[Symbol]	[Symbol]

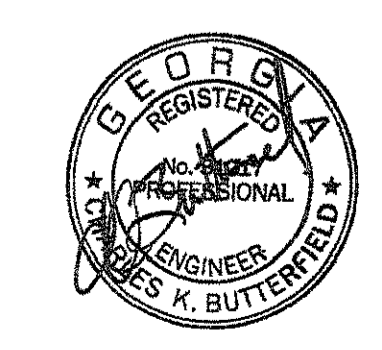
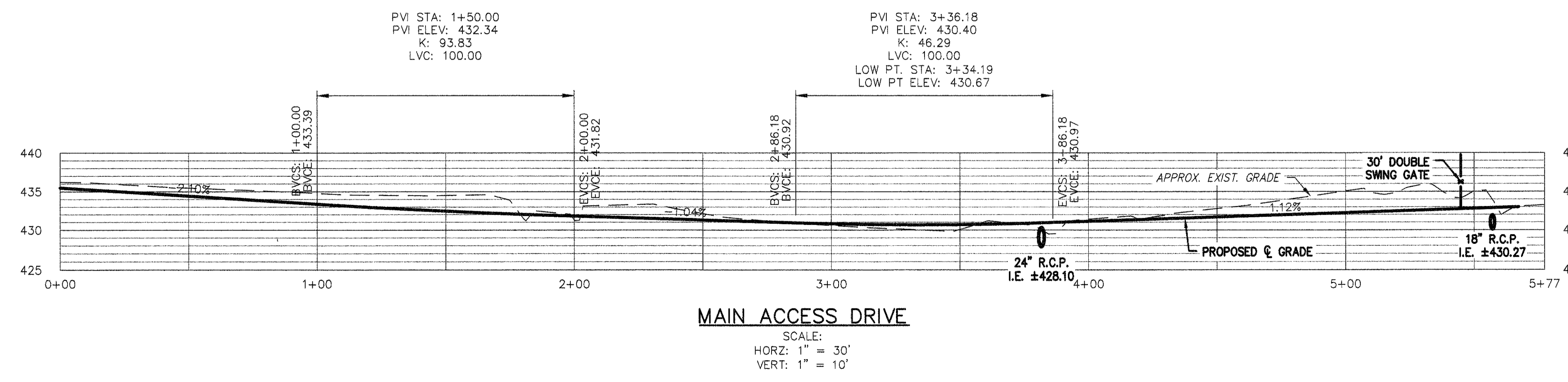
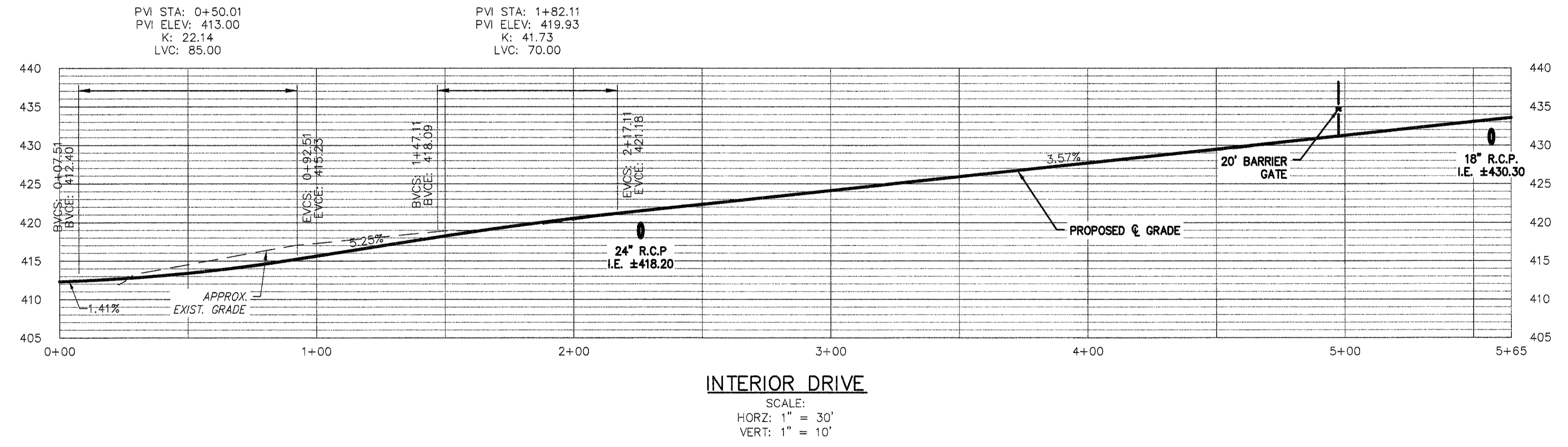
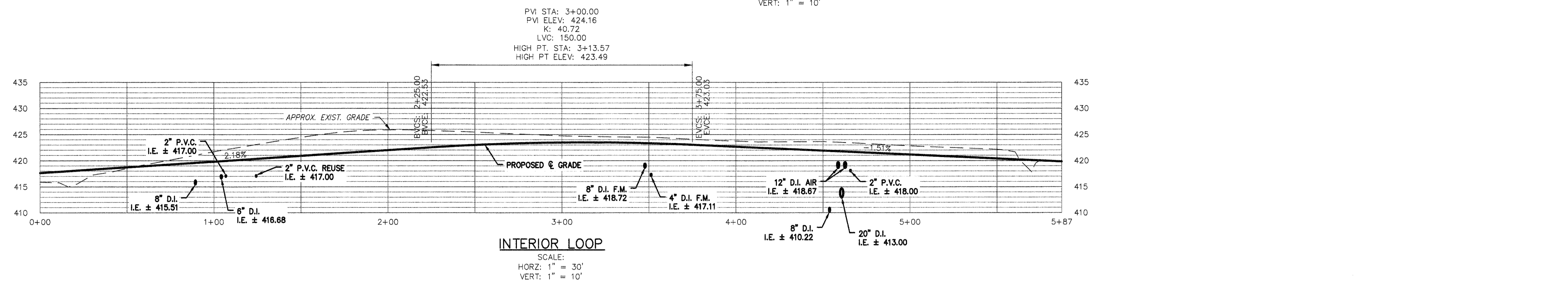
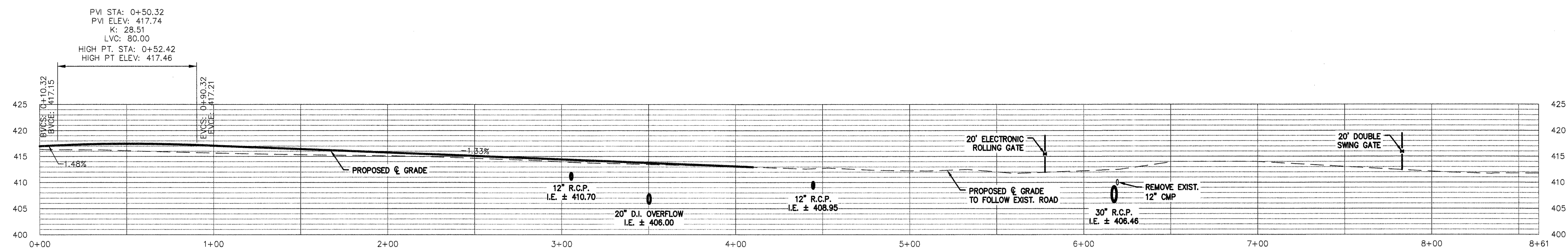
- NOTES:**
1. ALL SPRAY FIELD PIPING IN AREAS OF CONSTRUCTION SHALL BE REMOVED AS REQUIRED. SPRINKLERS & VALVES SHALL BE RETURNED TO THE OWNER. ALL OTHER SPRAY FIELD PIPING TO BE ABANDONED IN PLACE (BASE BID). CONTRACTOR SHALL REMOVE EXISTING SPRAY FIELD RISER PIPES IN THE SPRAY FIELDS AREAS OUTSIDE THE CONSTRUCTION LIMITS SHOWN BELOW AND RETURN SPRINKLERS & VALVES TO OWNER (ADDITION NO. 1)
 2. ALL SPRAY FIELD VALVES, NOZZLES AND APPURTENANCES REMOVED FROM SERVICE SHALL BE RETURNED TO OWNER.
 3. SPRAY FIELD AREA "A" SHALL REMAIN IN SERVICE UNTIL THE PROPOSED WATER POLLUTION CONTROL PLANT IS OPERATING AND IN SERVICE. ONCE THE PLANT IS IN SERVICE, AREA "A" SPRAY FIELD PIPING SHALL BE ABANDONED AND/OR REMOVED AS REQUIRED FOR CONSTRUCTION OF SWALES.
 4. ALL SPRAY FIELDS SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION OF THE PROPOSED WATER POLLUTION CONTROL PLANT UNLESS NOTED OTHERWISE. THE CONTRACTOR IS RESPONSIBLE FOR ALL BYPASS PIPING REQUIRED TO KEEP THE SPRAY FIELDS IN OPERATION DURING CONSTRUCTION OF THE PROPOSED WATER POLLUTION CONTROL PLANT.

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GSWCC CERTIFICATION NO. 17551

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
05/2017		SPRAYFIELD DEMOLITION PLAN	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
SLS	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
		SHEET 3 OF 77	
		ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	



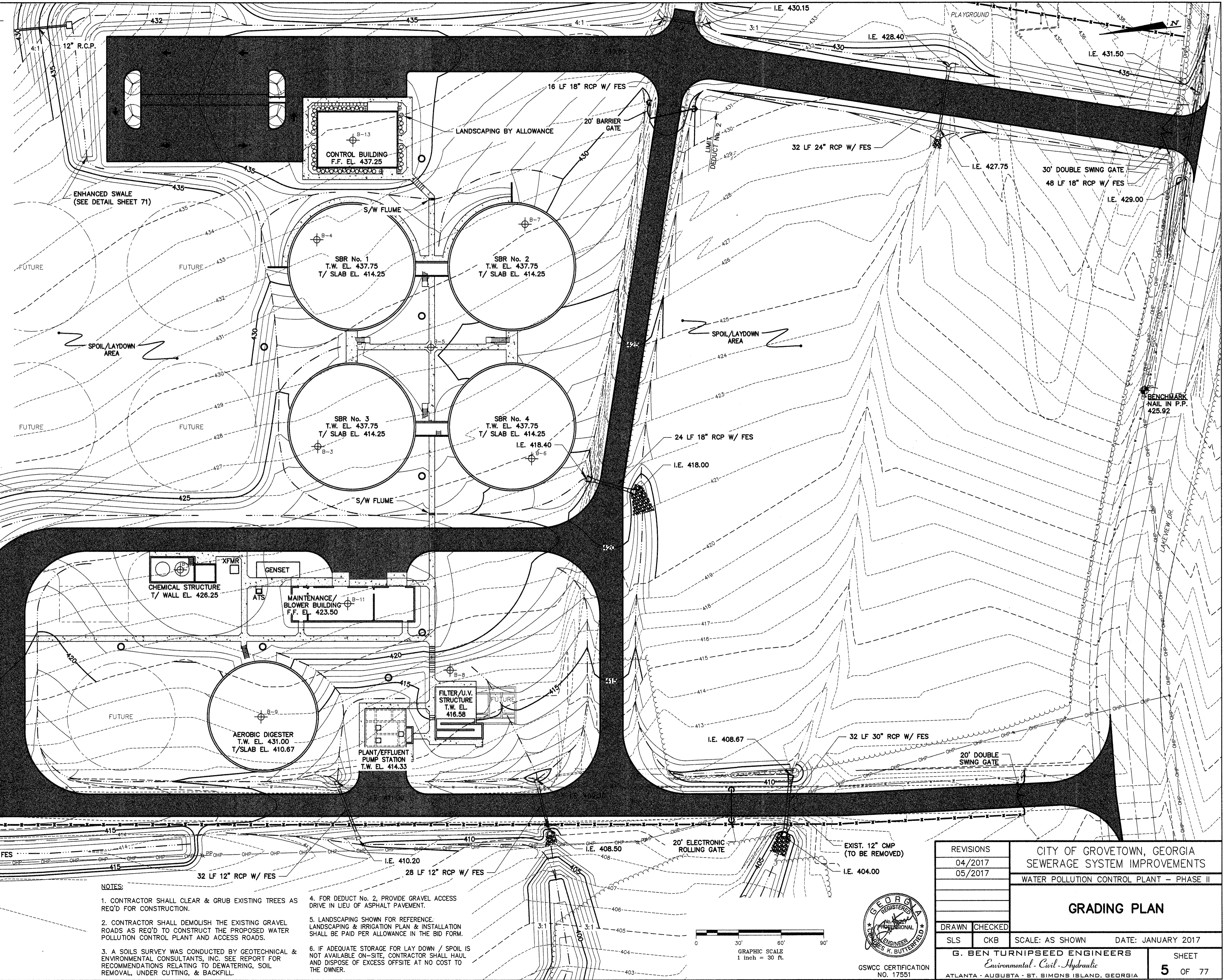
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
05/2017		ROAD PROFILES	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
SLS	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
G. BEN TURNIPSEED ENGINEERS Atlanta - Augusta - St. Simons Island, Georgia		SHEET 4 OF 77	

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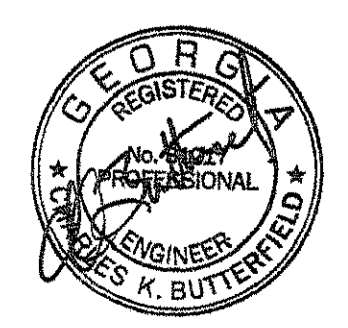
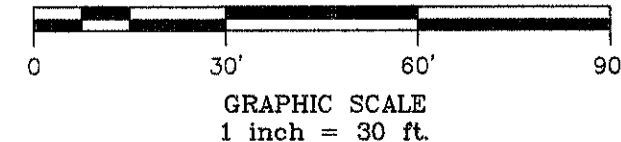
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LEGEND

	EXISTING	PROPOSED	FUTURE
STRUCTURE			
ROADWAY			
GRAVEL DRIVE			
SIDEWALK			
CONTOURS			
FENCE			
PROPERTY LINE			
TREE LINE			
C.I. OR D.I. PIPE			
CONC. OR V.C. PIPE			
CHEMICAL LINE			
AIR LINE			
REUSE LINE			
WATER LINE			
YARD HYDRANT			
CLEANOUT			
SOIL BORE			



- NOTES:
- CONTRACTOR SHALL CLEAR & GRUB EXISTING TREES AS REQ'D FOR CONSTRUCTION.
 - CONTRACTOR SHALL DEMOLISH THE EXISTING GRAVEL ROADS AS REQ'D TO CONSTRUCT THE PROPOSED WATER POLLUTION CONTROL PLANT AND ACCESS ROADS.
 - A SOILS SURVEY WAS CONDUCTED BY GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS, INC. SEE REPORT FOR RECOMMENDATIONS RELATING TO DEWATERING, SOIL REMOVAL, UNDER CUTTING, & BACKFILL.
 - FOR DEDUCT NO. 2, PROVIDE GRAVEL ACCESS DRIVE IN LIEU OF ASPHALT PAVEMENT.
 - LANDSCAPING SHOWN FOR REFERENCE. LANDSCAPING & IRRIGATION PLAN & INSTALLATION SHALL BE PAID PER ALLOWANCE IN THE BID FORM.
 - IF ADEQUATE STORAGE FOR LAY DOWN / SPOIL IS NOT AVAILABLE ON-SITE, CONTRACTOR SHALL HAUL AND DISPOSE OF EXCESS OFFSITE AT NO COST TO THE OWNER.



GSWCC CERTIFICATION
NO. 17551

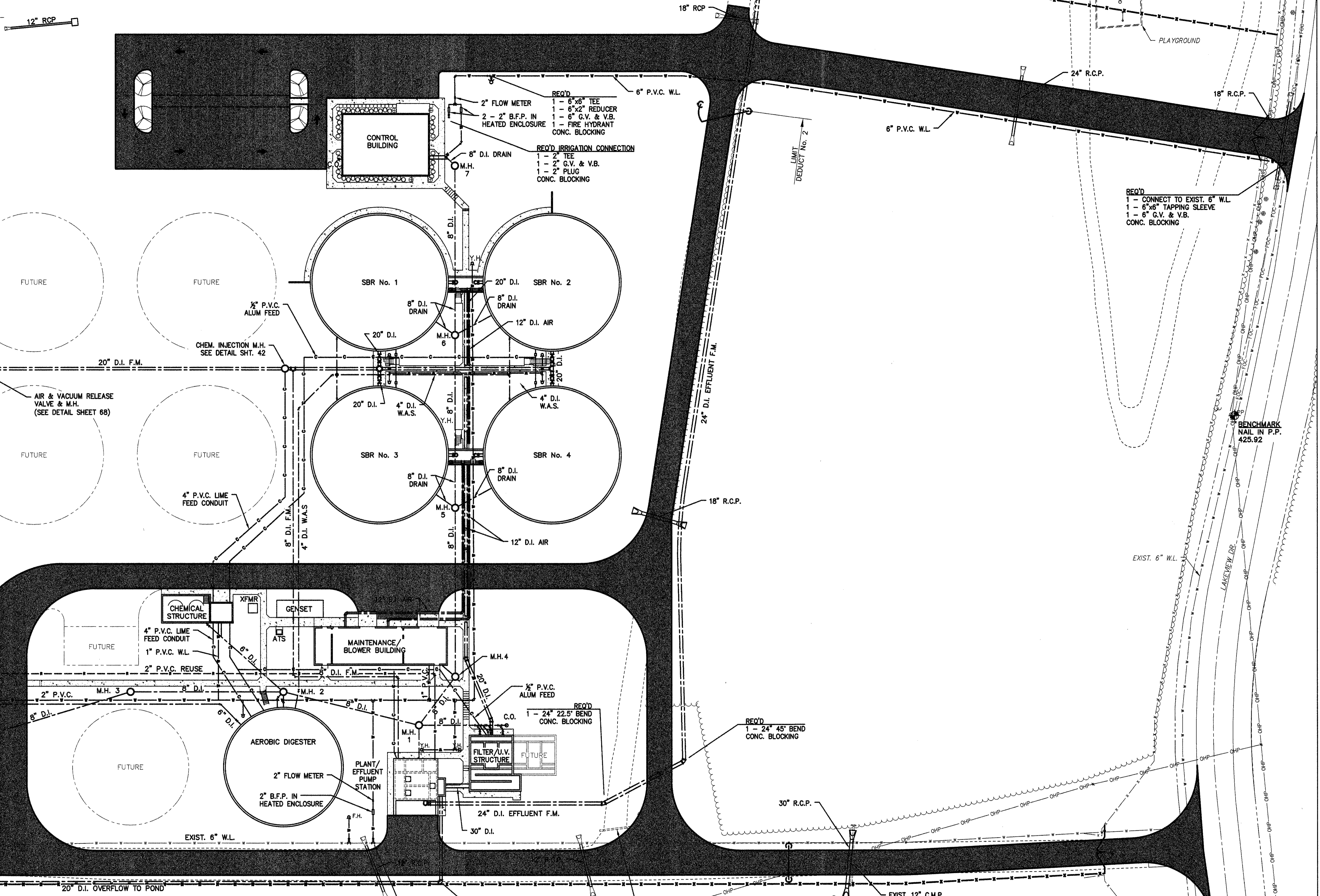
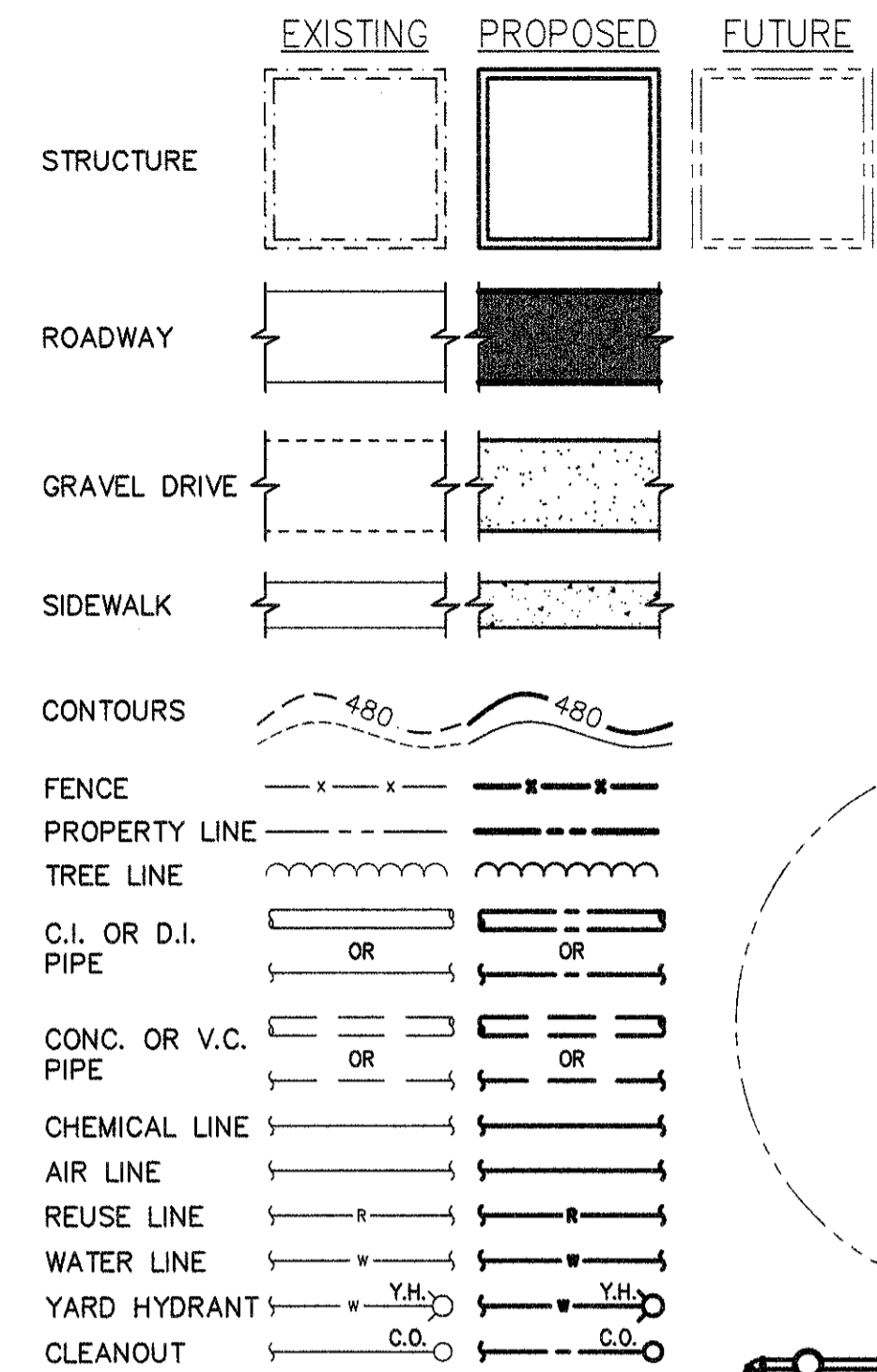
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		GRADING PLAN	
05/2017			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
SLS	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 5 OF 77	

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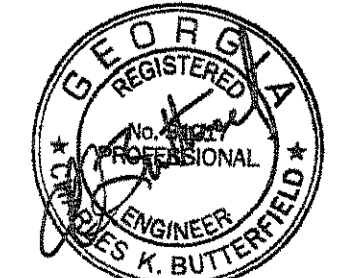
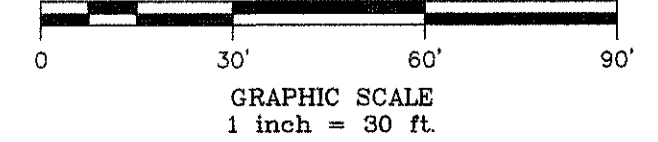
LEGEND



- NOTES:
- FOR DEDUCT NO. 2, PROVIDE GRAVEL ACCESS DRIVE IN LIEU OF ASPHALT PAVEMENT.
 - DUCTILE IRON AIR PIPING SHALL BE SUPPLIED UNLINED WITH VITON GASKETS.
 - ALL PIPE SHALL HAVE MINIMUM 4'-0" COVER UNLESS NOTED OTHERWISE. CONCRETE BLOCKING WILL BE REQUIRED AT ALL BENDS, FITTINGS, VALVES, & HYDRANTS.
 - ENCASE PIPING UNDER GENERATOR IN MIN. 6" CLASS "C" CONCRETE ENCASUREMENT TO 12" OUTSIDE GENERATOR SLAB.

5. THE LOCATION OF EXISTING UTILITY LINES SHOWN ARE APPROXIMATE. THE APPROXIMATE POSITION OF CERTAIN UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL LOCATE, EXCAVATE, AND EXPOSE ALL EXISTING UNDERGROUND LINES IN ADVANCE OF TRENCHING AND OTHER CONSTRUCTION OPERATIONS. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE CONTRACTOR MUST CALL UTILITIES PROTECTION, INC. "CALL BEFORE YOU DIG", TELEPHONE NUMBER 811.

- REQ'D
- 1 - 6"x6" TAPPING SLEEVE
 - 1 - 6"x2" TAPPING SLEEVE
 - 1 - 6" G.V. & V.B.
 - 1 - 2" G.V. & V.B.
 - 1 - FIRE HYDRANT CONC. BLOCKING

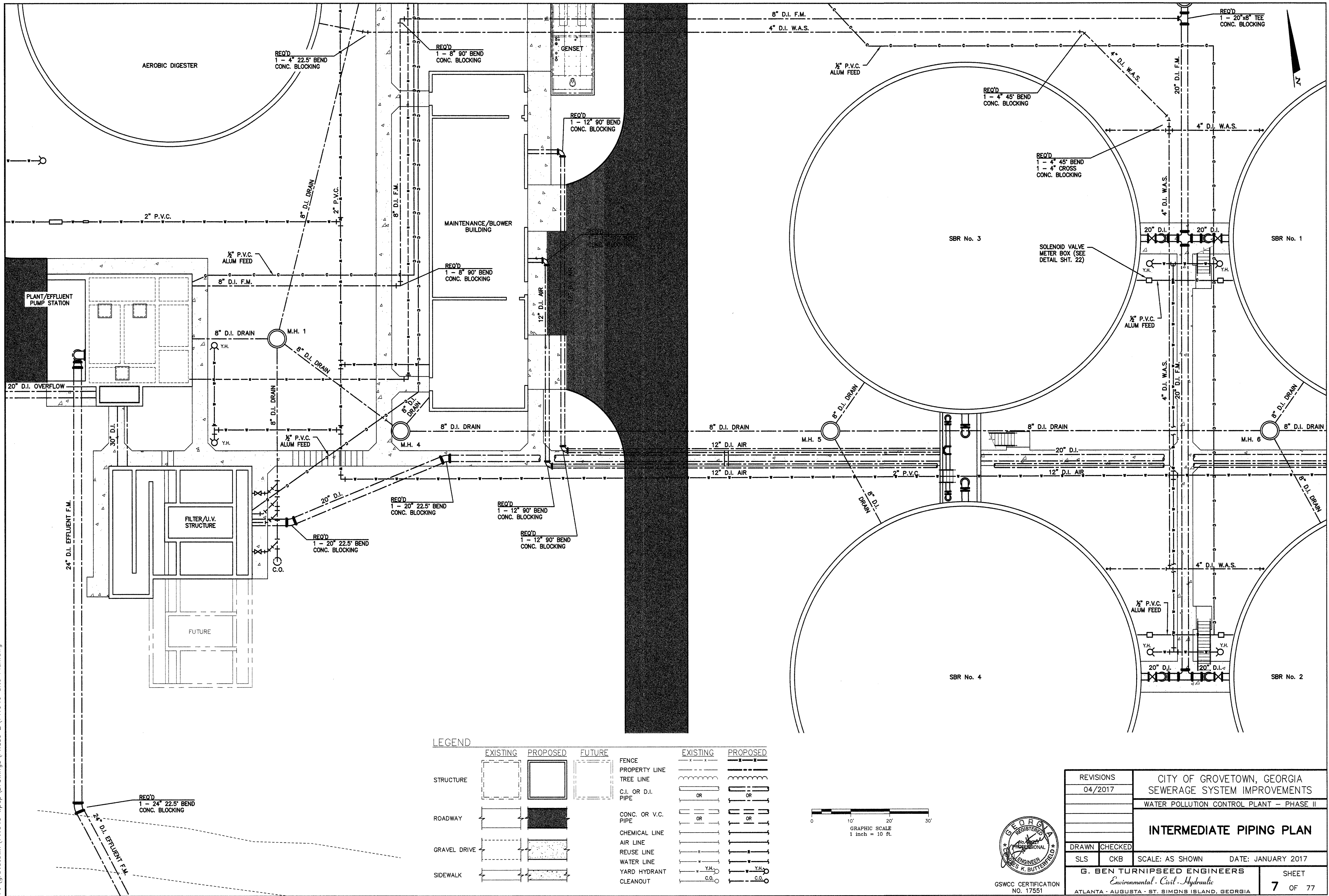


GSWCC CERTIFICATION NO. 17551

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		PIPING PLAN	
05/2017			
DRAWN		CHECKED	
SLS	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 6 OF 77	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			

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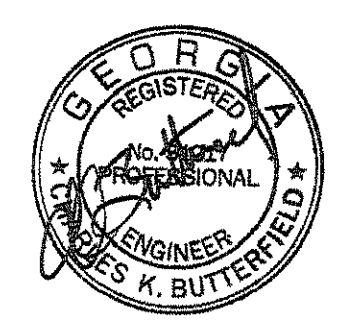
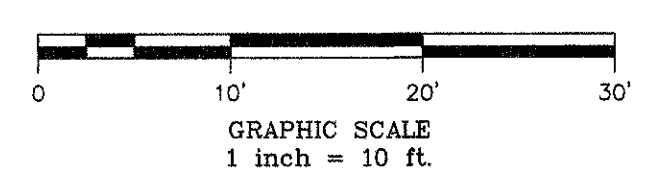
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LEGEND

	EXISTING	PROPOSED	FUTURE		EXISTING	PROPOSED
STRUCTURE				FENCE		
ROADWAY				PROPERTY LINE		
GRAVEL DRIVE				TREE LINE		
SIDEWALK				C.I. OR D.I. PIPE		
				CONC. OR V.C. PIPE		
				CHEMICAL LINE		
				AIR LINE		
				REUSE LINE		
				WATER LINE		
				YARD HYDRANT		
				CLEANOUT		

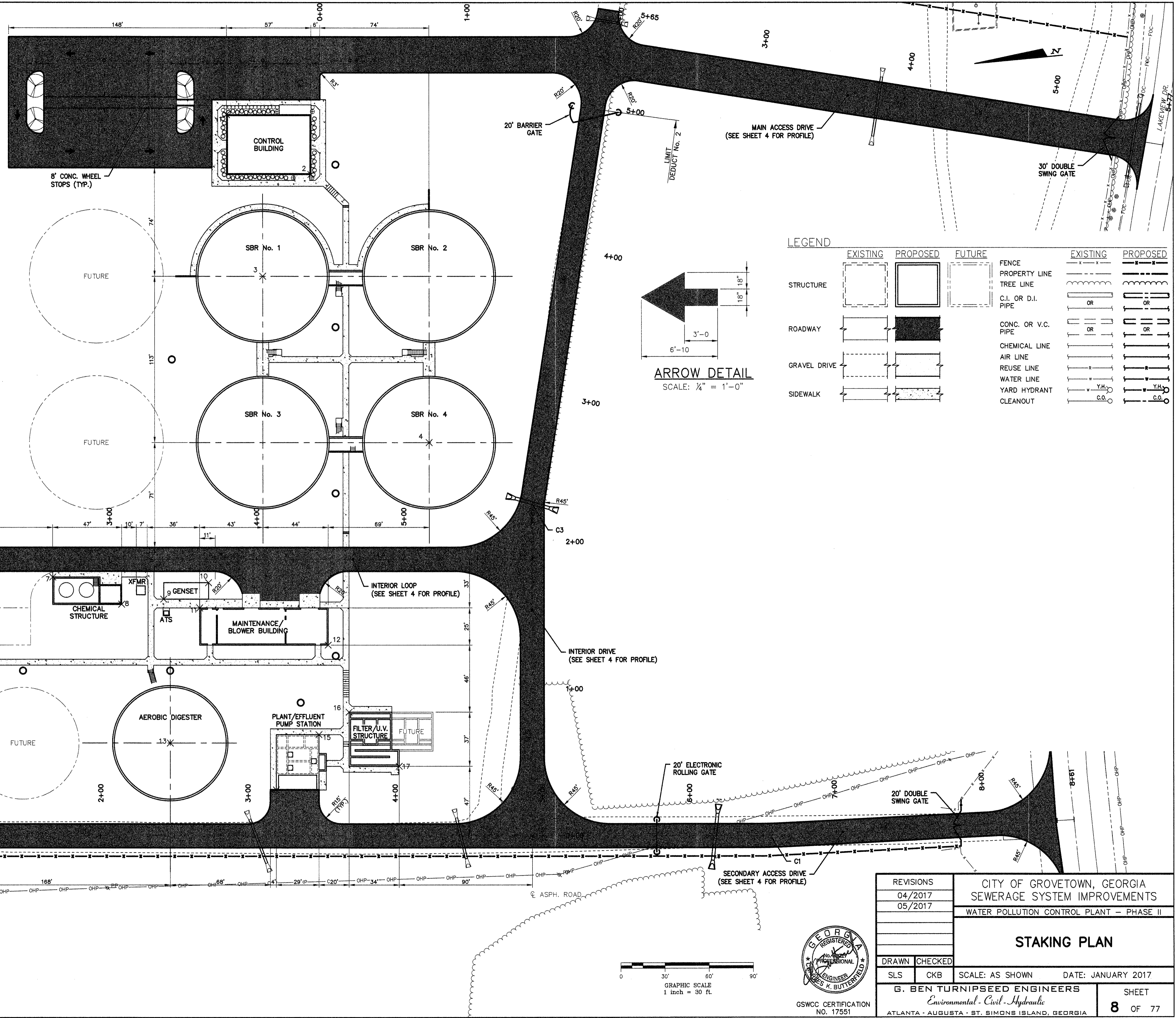


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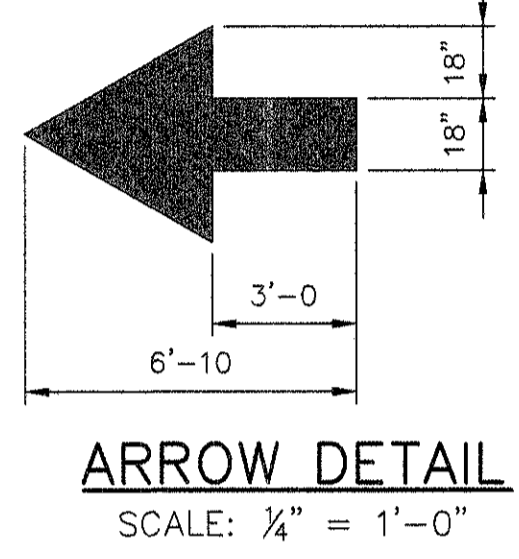
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		INTERMEDIATE PIPING PLAN	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
SLS	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
		ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 7 OF 77	

STAKING POINT TABLE			
POINT #	RAW DESCRIPTION	NORTHING	EASTING
1	NE CORNER CONTROL BUILDING	1250223.8054	642287.0683
2	SW CORNER CONTROL BUILDING	1250170.6386	642241.0881
3	CENTER SBR No. 1	1250209.9803	642175.2258
4	CENTER SBR No. 4	1250108.2925	642051.8998
5	NE CORNER SLUDGE DEWATERING BUILDING	1250537.1483	641937.2699
6	SW CORNER SLUDGE DEWATERING BUILDING	1250509.1520	641885.5116
7	NE CORNER CHEMICAL STRUCTURE	1250371.7305	641985.3698
8	SW CORNER CHEMICAL STRUCTURE	1250326.8812	641962.4602
9	NW CORNER GENSET	1250298.0831	641963.2014
10	SE CORNER GENSET	1250266.6819	641971.4314
11	NE CORNER MAINTENANCE/BLOWER BUILDING	1250274.3654	641954.8873
12	SW CORNER MAINTENANCE/BLOWER BUILDING	1250189.8658	641921.2911
13	CENTER AEROBIC DIGESTER	1250303.1467	641865.2349
14	NW CORNER PLANT/EFFLUENT PUMP STATION	1250234.5333	641826.6402
15	SE CORNER PLANT/EFFLUENT PUMP STATION	1250202.0690	641861.1846
16	NE CORNER FILTER/U.V. STRUCTURE	1250180.1924	641874.4802
17	SW CORNER FILTER/U.V. STRUCTURE	1250149.8835	641834.5544
18	INTERSECTION AT SLUDGE DEWATERING BUILDING	1250484.3795	641819.4129
19	INTERSECTION AT FILTER/U.V. STRUCTURE	1250064.3509	641778.9241
20	INTERSECTION AT SBR No. 4	1250046.3122	641966.0566
21	INTERSECTION AT MAIN ACCESS DRIVE	1249967.0864	642301.0790

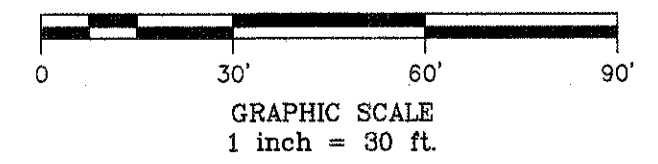
- NOTES:
 1. FOR DEDUCT No. 2, PROVIDE GRAVEL ACCESS DRIVE IN LIEU OF ASPHALT PAVEMENT.
 2. LANDSCAPING SHOWN FOR REFERENCE. LANDSCAPING & IRRIGATION PLAN & INSTALLATION SHALL BE PAID PER ALLOWANCE IN THE BID FORM.

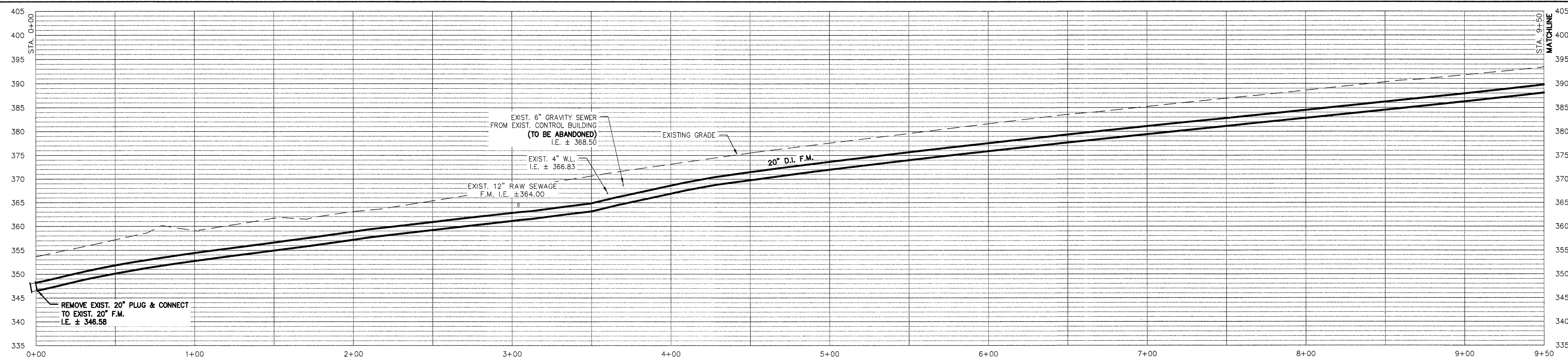


	EXISTING	PROPOSED	FUTURE		EXISTING	PROPOSED
	STRUCTURE	[Symbol]	[Symbol]		[Symbol]	FENCE
ROADWAY	[Symbol]	[Symbol]	[Symbol]	PROPERTY LINE	[Symbol]	[Symbol]
GRAVEL DRIVE	[Symbol]	[Symbol]	[Symbol]	TREE LINE	[Symbol]	[Symbol]
SIDEWALK	[Symbol]	[Symbol]	[Symbol]	C.I. OR D.I. PIPE	[Symbol]	[Symbol]
				CONC. OR V.C. PIPE	[Symbol]	[Symbol]
				CHEMICAL LINE	[Symbol]	[Symbol]
				AIR LINE	[Symbol]	[Symbol]
				REUSE LINE	[Symbol]	[Symbol]
				WATER LINE	[Symbol]	[Symbol]
				YARD HYDRANT	[Symbol]	[Symbol]
				CLEANOUT	[Symbol]	[Symbol]



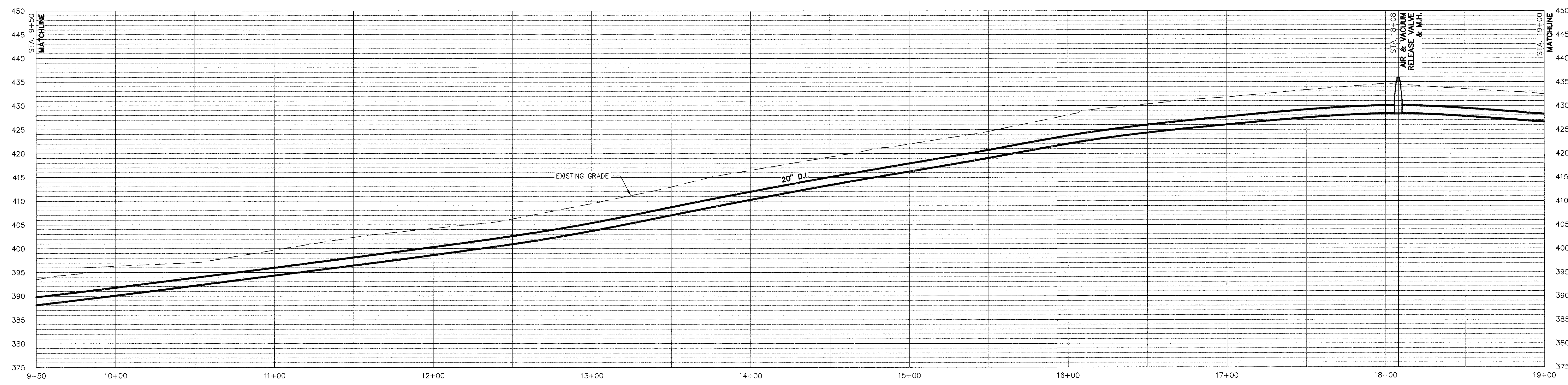
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		STAKING PLAN	
05/2017			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
SLS	CKB	G. BEN TURNIPSEED ENGINEERS Environmental, Civil, Hydraulic	
GSWCC CERTIFICATION NO. 17551		SHEET 8 OF 77	





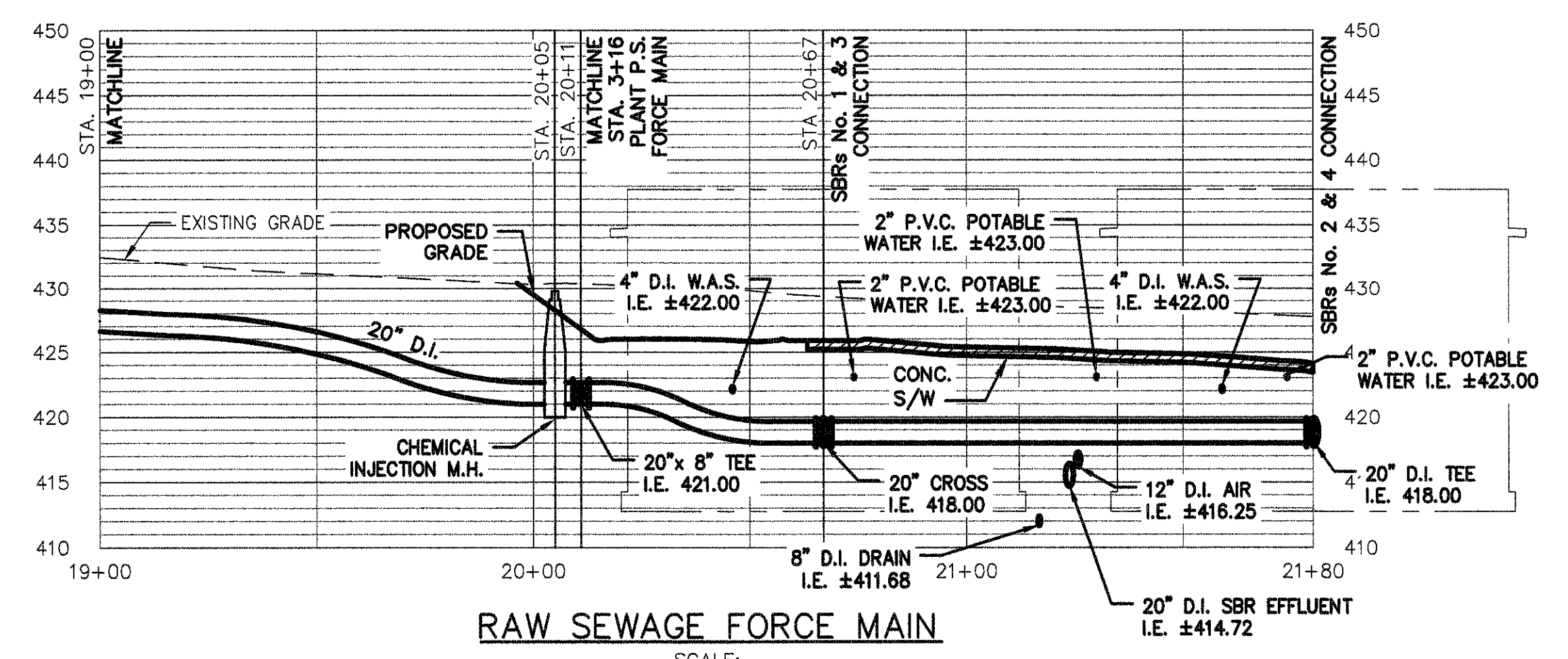
RAW SEWAGE FORCE MAIN

SCALE:
HORZ: 1" = 30'
VERT: 1" = 10'



RAW SEWAGE FORCE MAIN

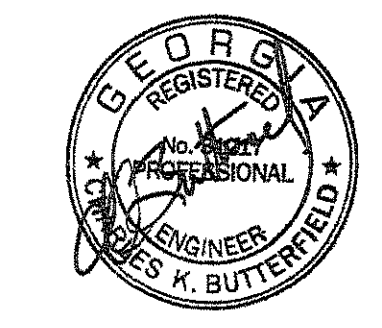
SCALE:
HORZ: 1" = 30'
VERT: 1" = 10'



RAW SEWAGE FORCE MAIN

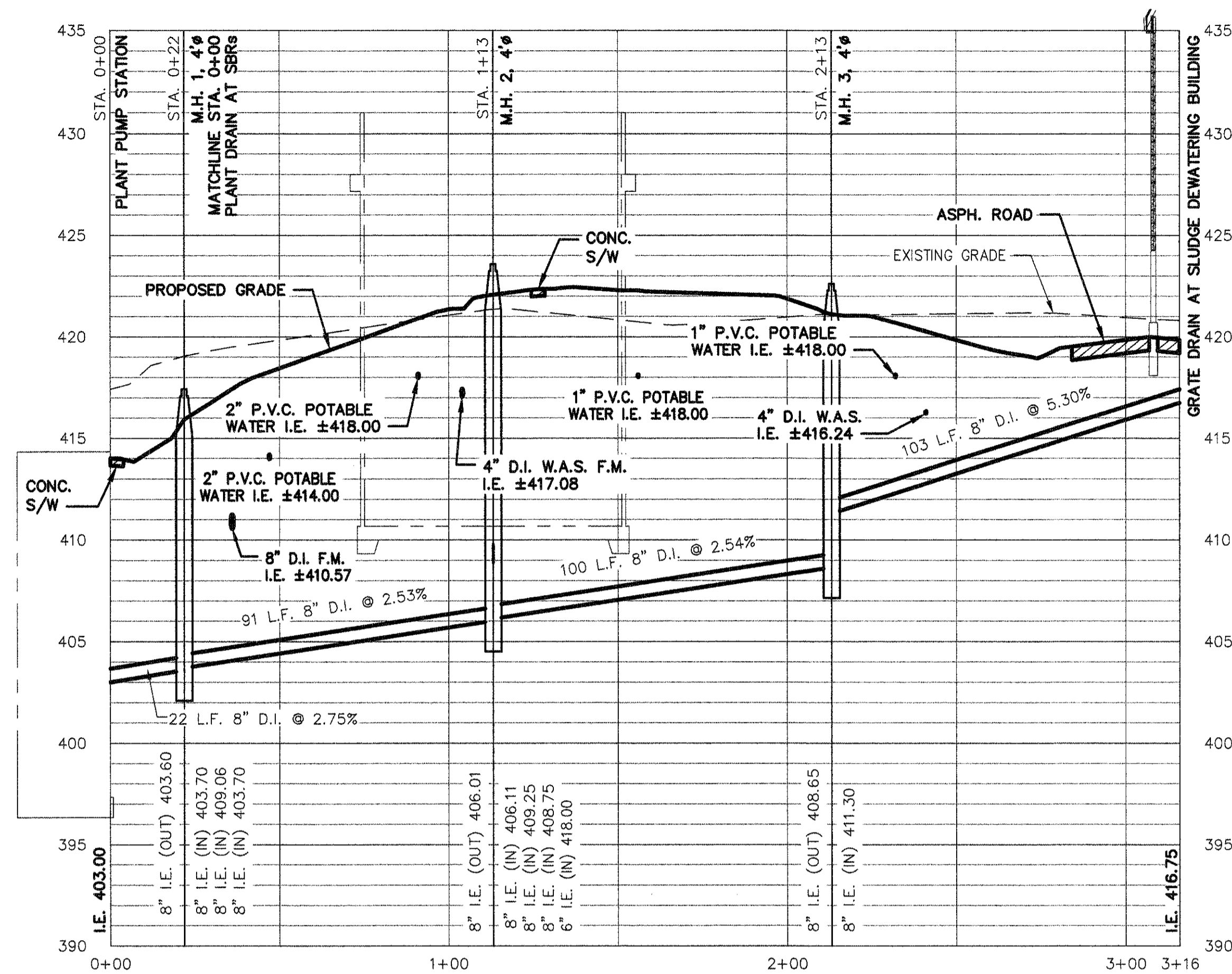
SCALE:
HORZ: 1" = 30'
VERT: 1" = 10'

- NOTES:**
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO CONSTRUCTION.
 2. FORCE MAIN SHALL BE INSTALLED ON CONTINUOUS UPWARD GRADE WITH MINIMUM COVER OF 42". MINIMUM SEPARATION FROM OTHER PIPES SHALL BE 12" UNLESS NOTED OTHERWISE.

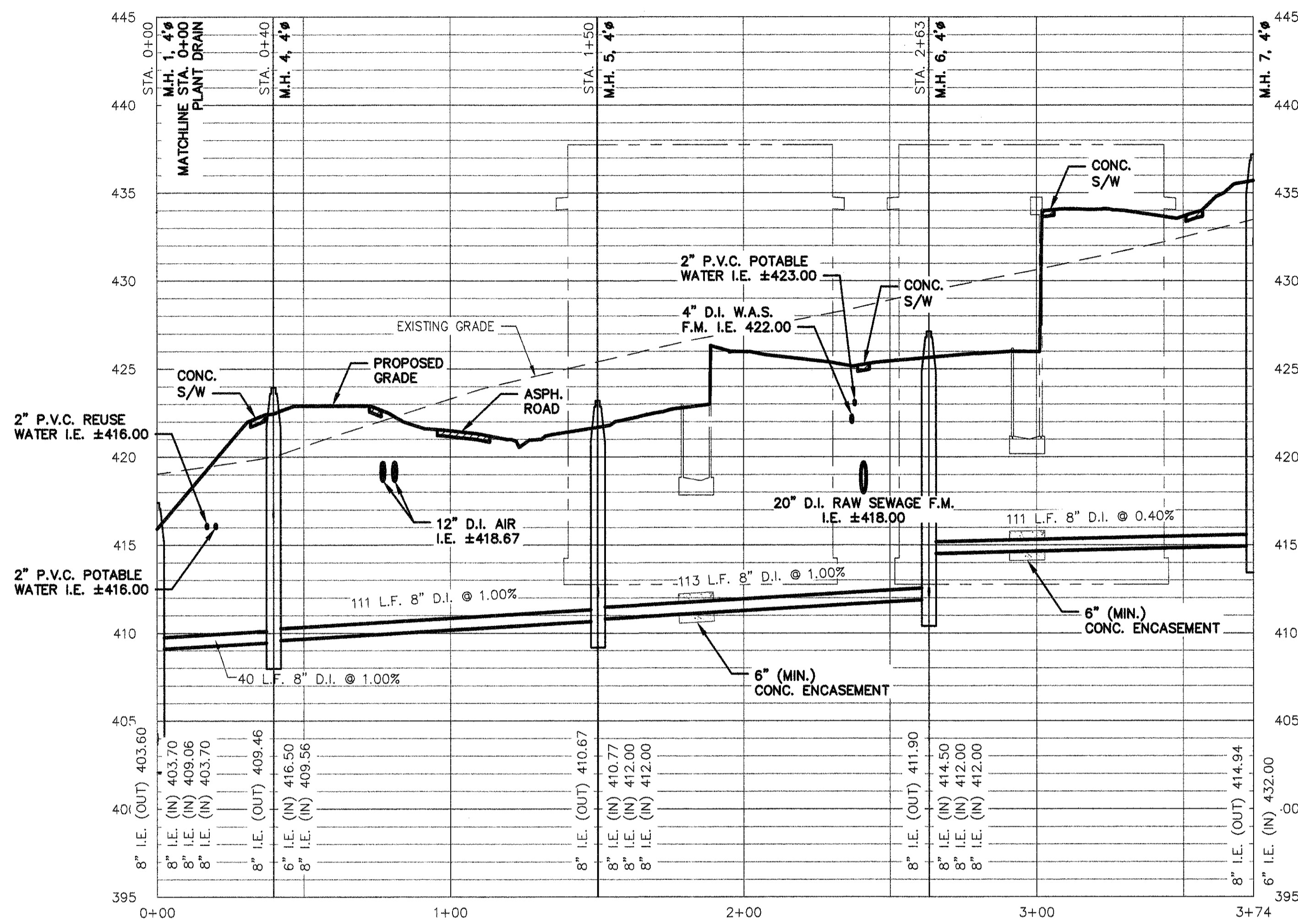


GSWCC CERTIFICATION NO. 17551

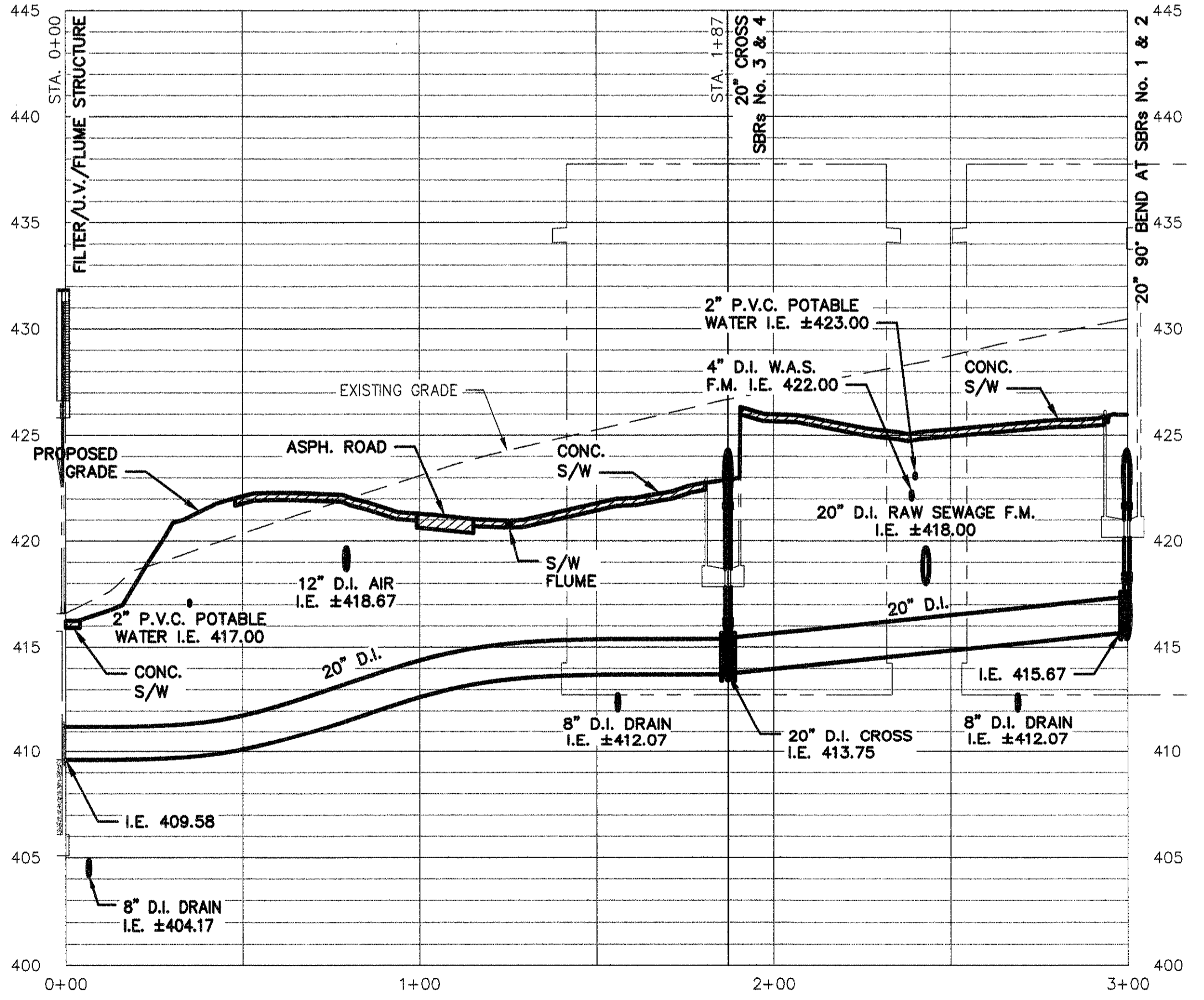
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		RAW SEWAGE FORCE MAIN PROFILES	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
HJH	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
		SHEET 9 OF 77	
		ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	



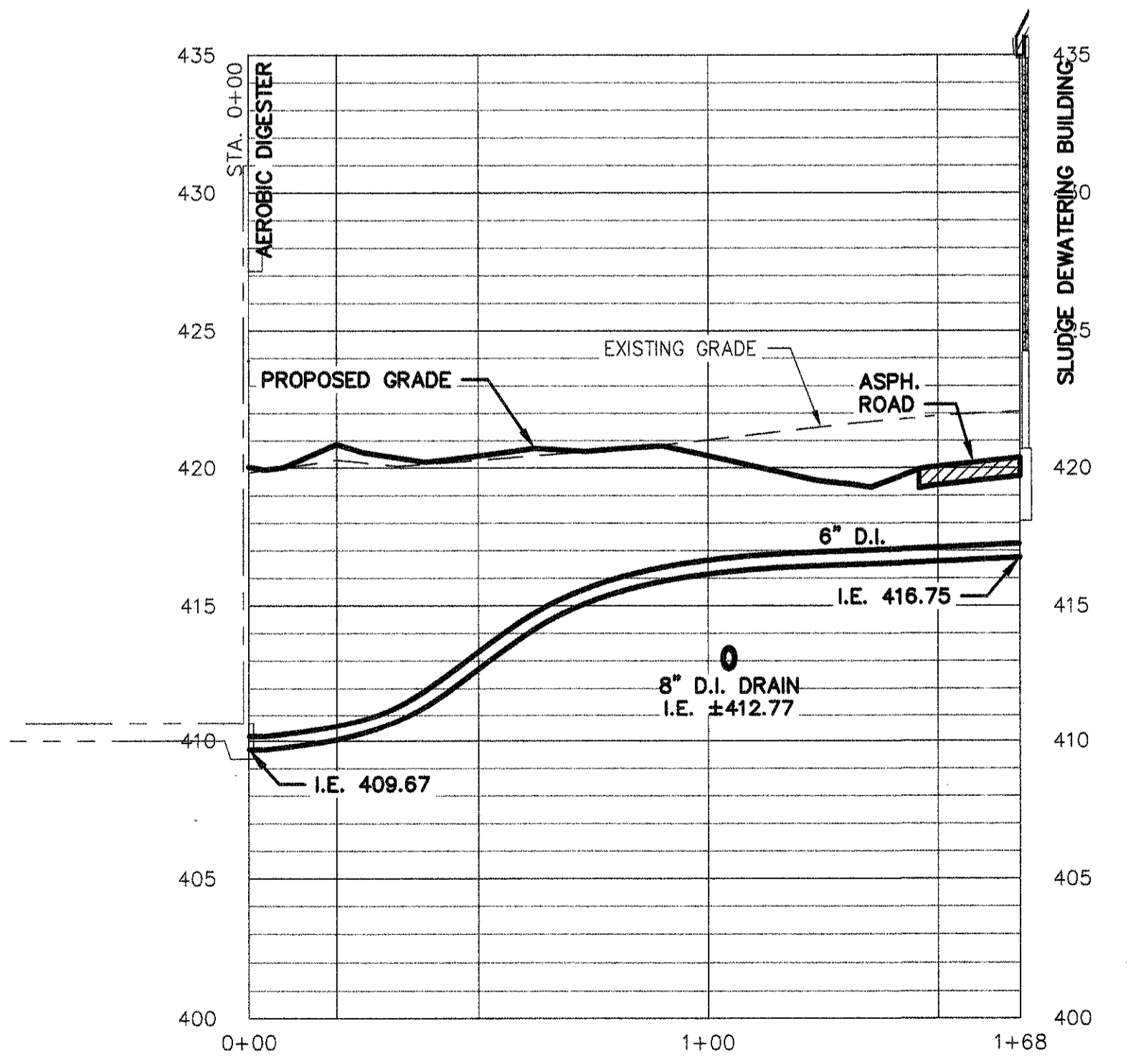
PLANT DRAIN
 SCALE:
 HORIZ: 1" = 30'
 VERT: 1" = 5'



PLANT DRAIN AT SBRs
 SCALE:
 HORIZ: 1" = 30'
 VERT: 1" = 5'



SBRs TO FILTERS
 SCALE:
 HORIZ: 1" = 30'
 VERT: 1" = 5'

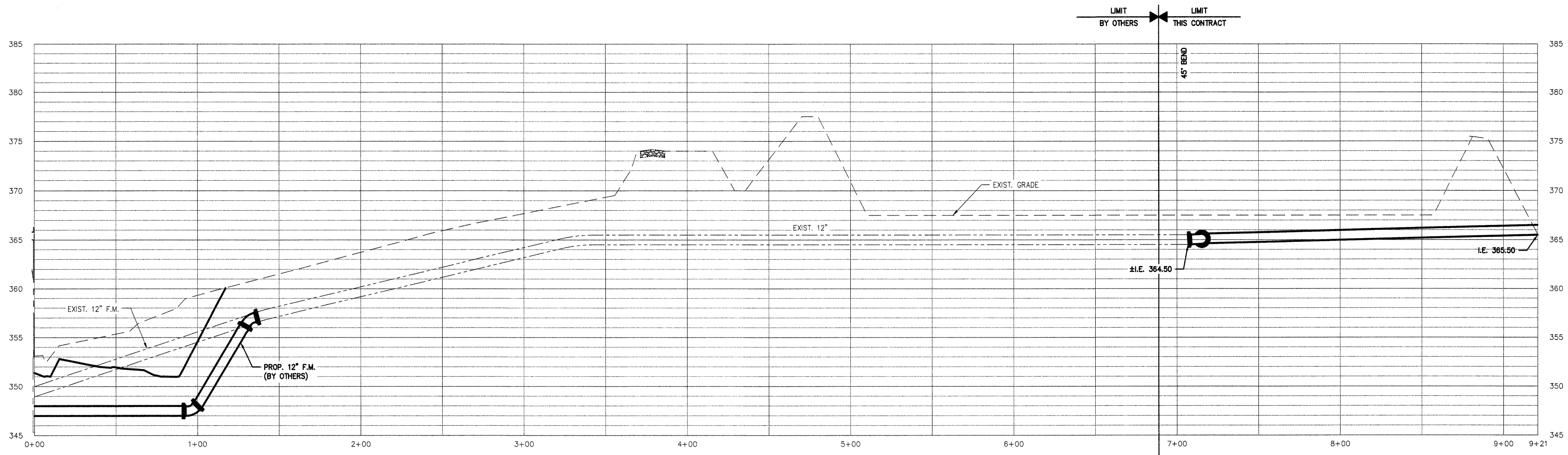


AEROBIC DIGESTER TO SLUDGE DEWATERING BUILDING
 SCALE:
 HORIZ: 1" = 30'
 VERT: 1" = 5'



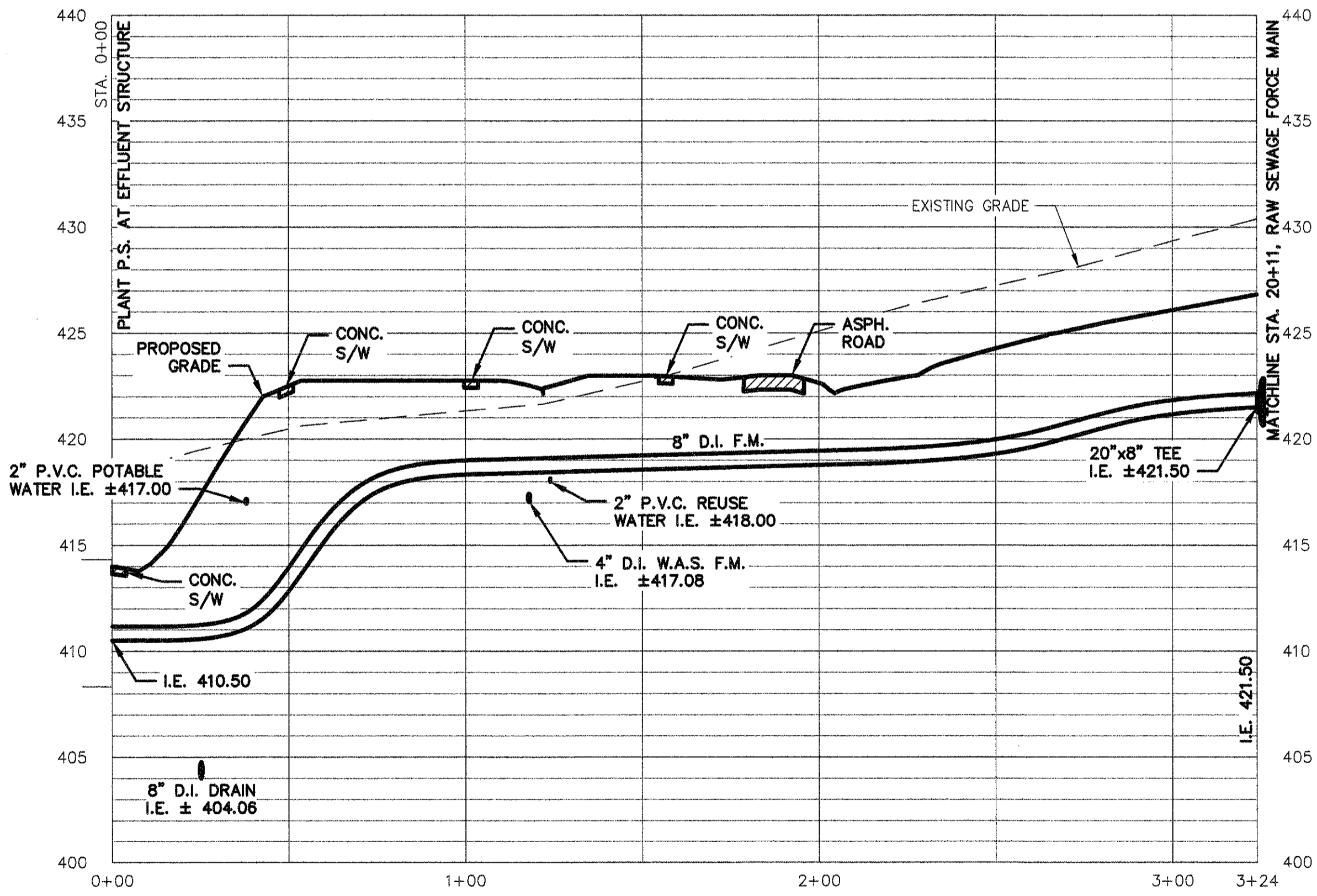
REVISIONS 04/2017 05/2017		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
DRAWN: HJH CHECKED: CKB		PLANT DRAIN PROFILES SCALE: AS SHOWN DATE: JANUARY 2017	
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 10 OF 77	

SENERMAN



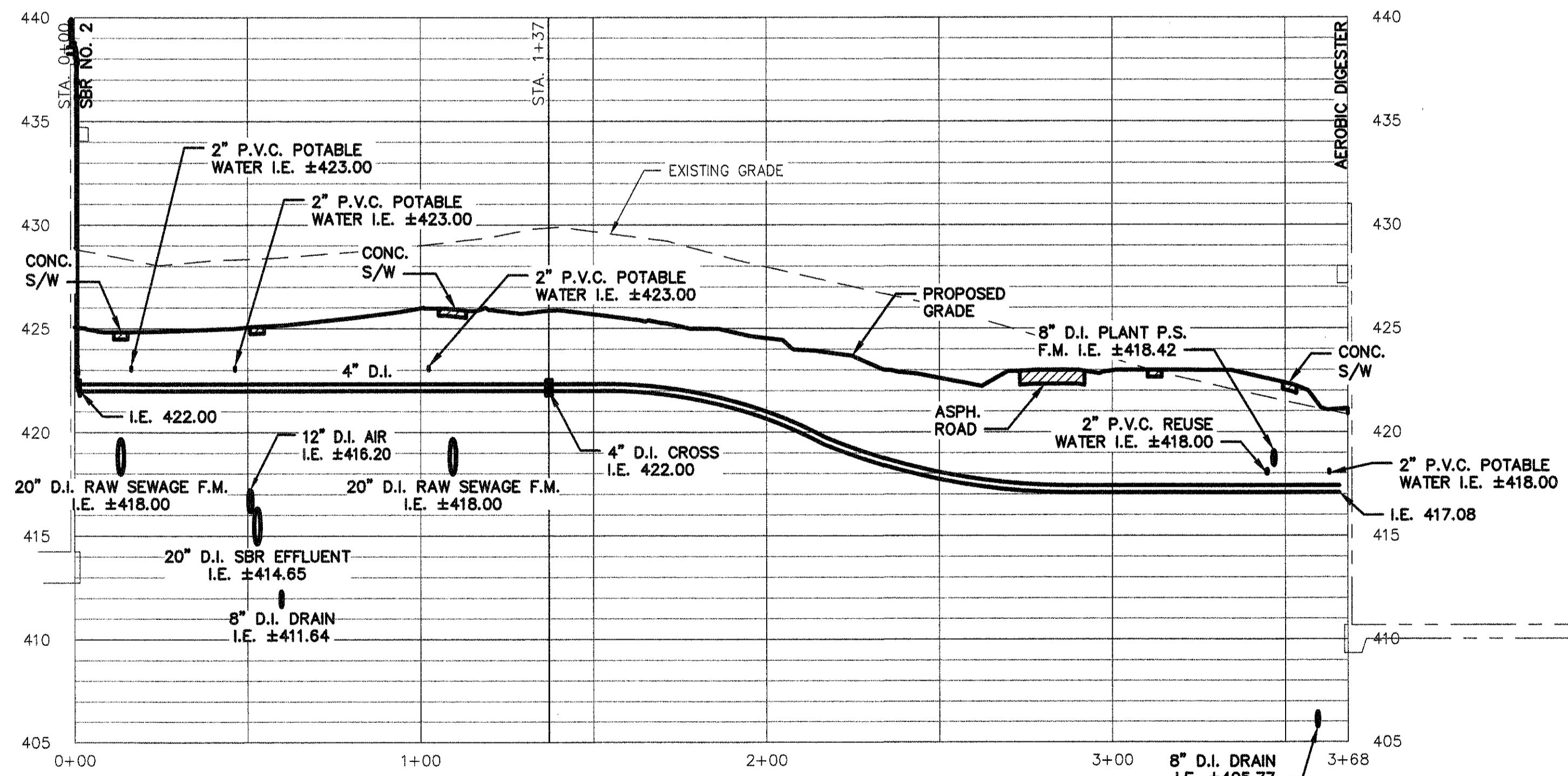
EQ. BASIN DRAIN

SCALE:
HORZ: 1" = 30'
VERT: 1" = 5'



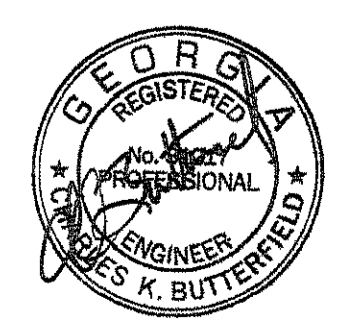
PLANT P.S. FORCE MAIN

SCALE:
HORZ: 1" = 30'
VERT: 1" = 5'



W.A.S. FORCE MAIN

SCALE:
HORZ: 1" = 30'
VERT: 1" = 5'

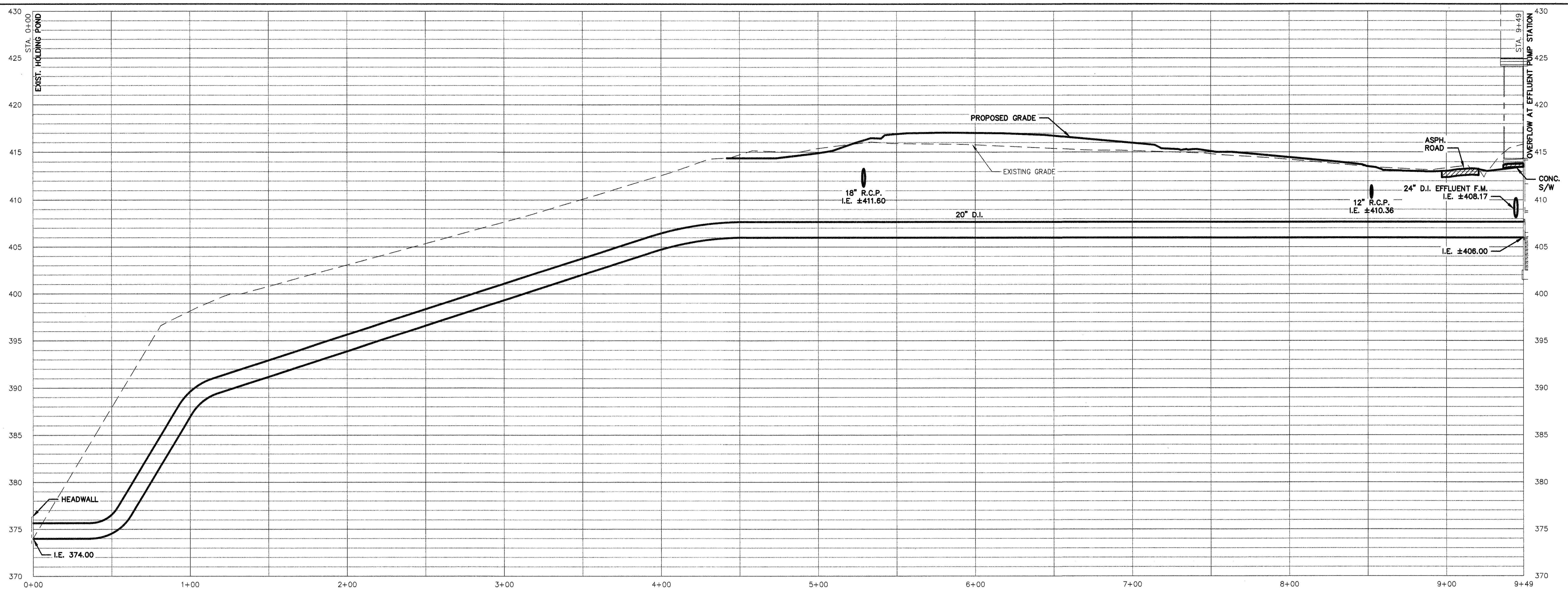


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
PLANT PIPING PROFILES			
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
HJH	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 11 OF 77

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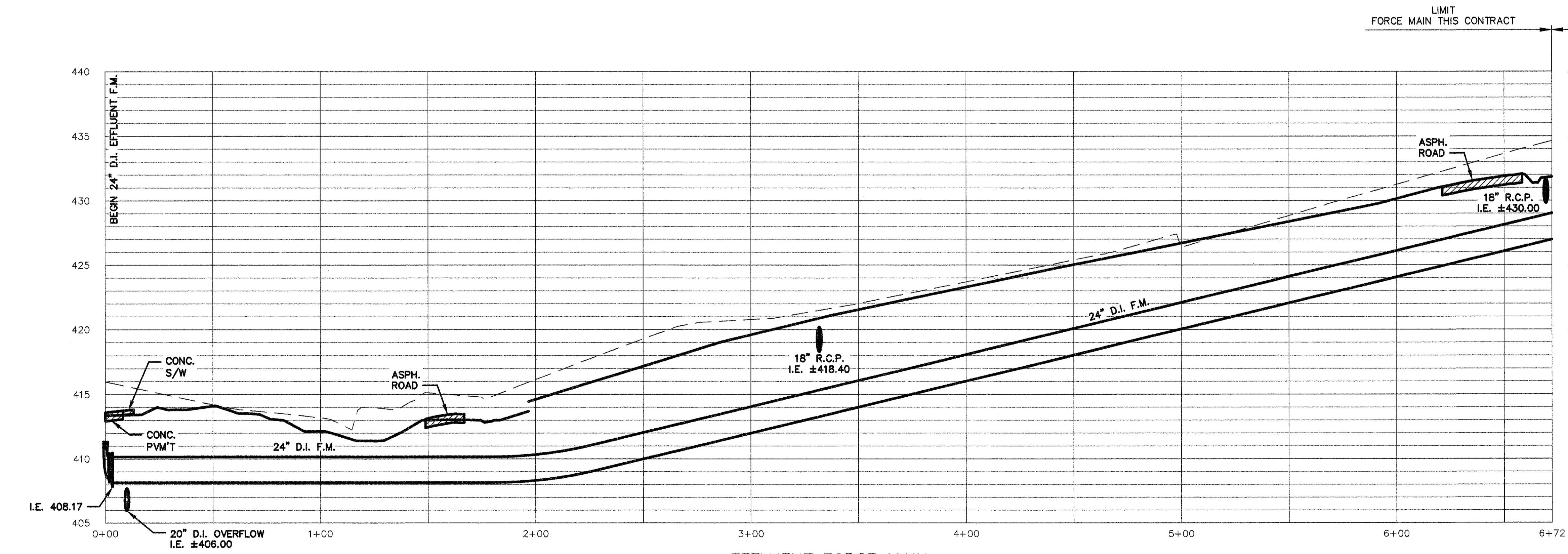
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SEENERMAN



OVERFLOW TO POND

SCALE:
HORZ: 1" = 30'
VERT: 1" = 5'

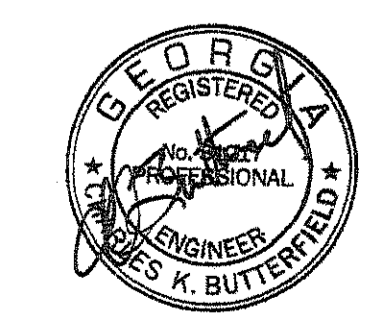


EFFLUENT FORCE MAIN

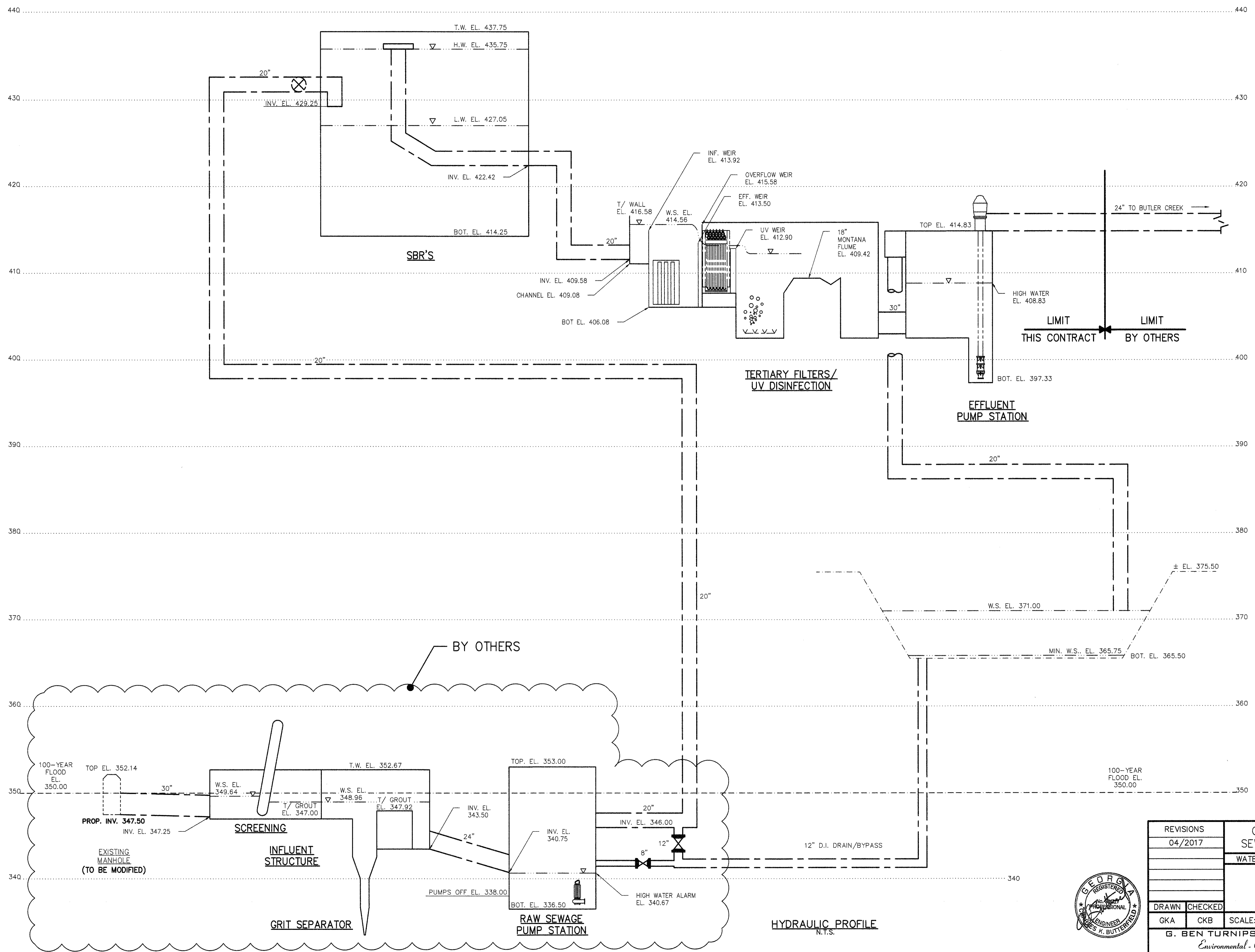
SCALE:
HORZ: 1" = 30'
VERT: 1" = 5'

LIMIT FORCE MAIN THIS CONTRACT
LIMIT FORCE MAIN BY OTHERS
PHASE-III

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
05/2017		OVERFLOW TO POND & EFFLUENT FORCE MAIN PROFILES	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
HJH	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 12 OF 77	



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9/17/2010



NOTE: WATER SURFACE ELEVATIONS DESIGNATE LEVEL AT PEAK FLOW OF 7.50 MGD

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		HYDRAULIC PROFILE	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 13 OF 77	

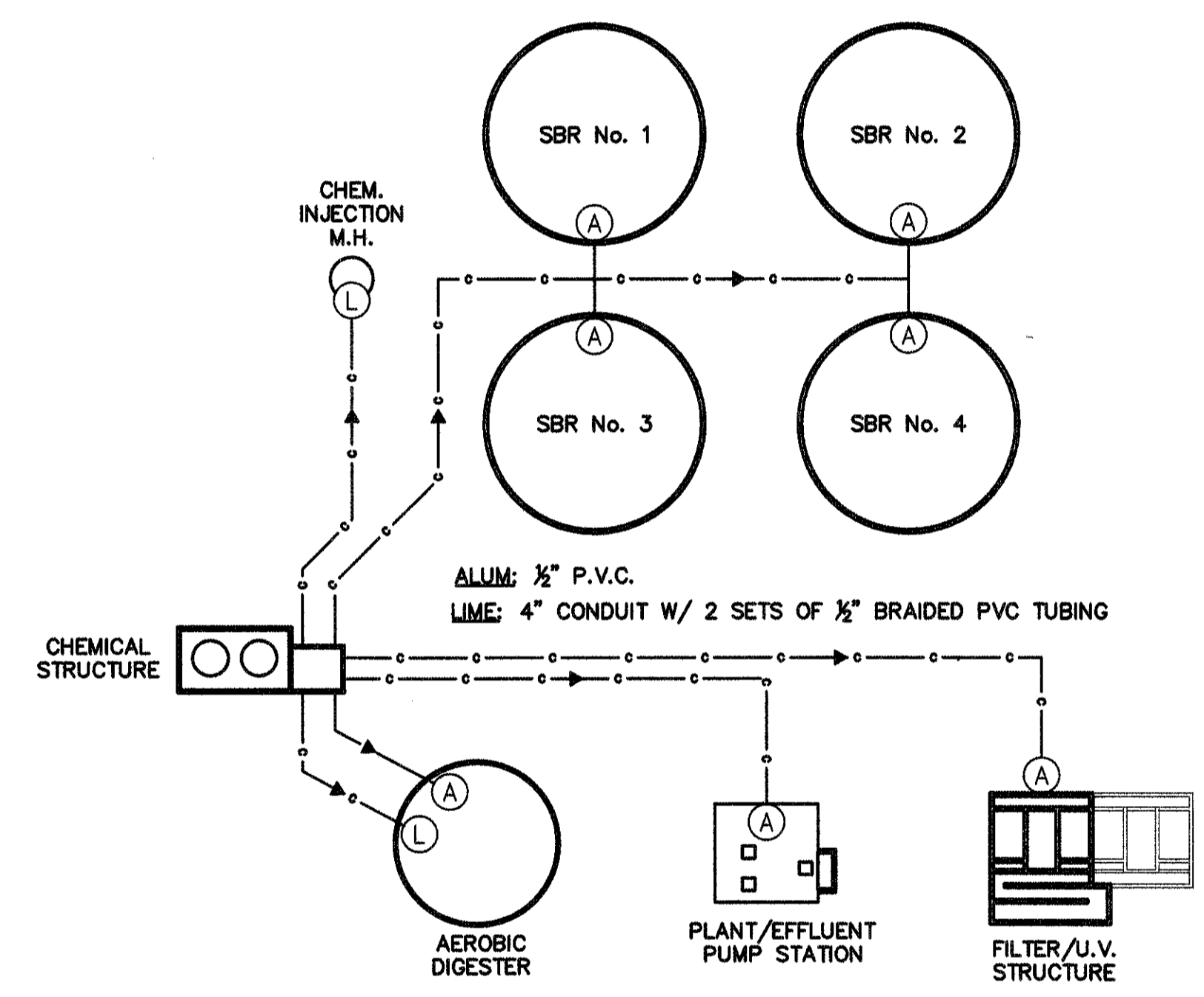
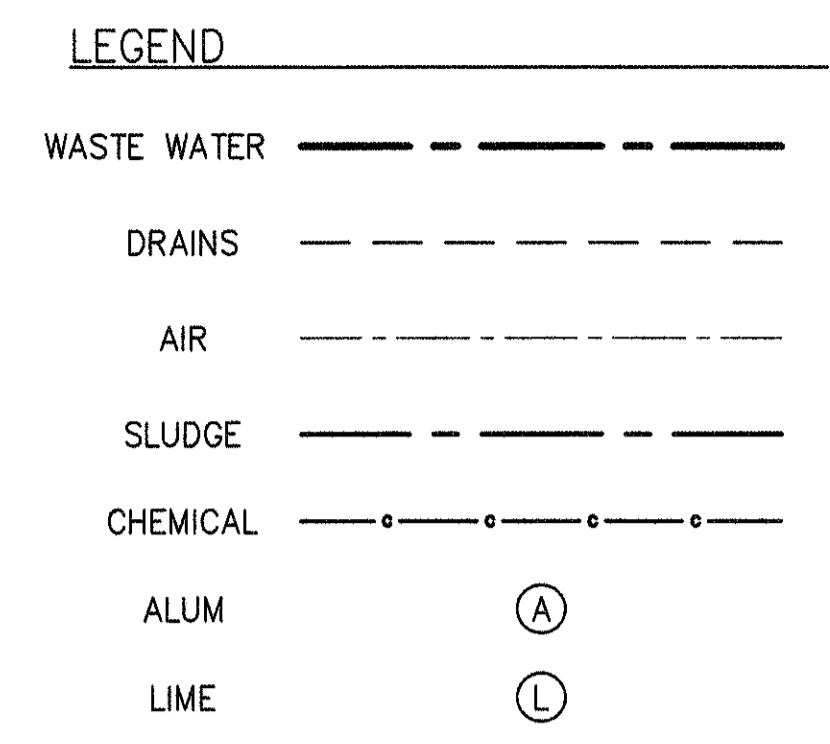
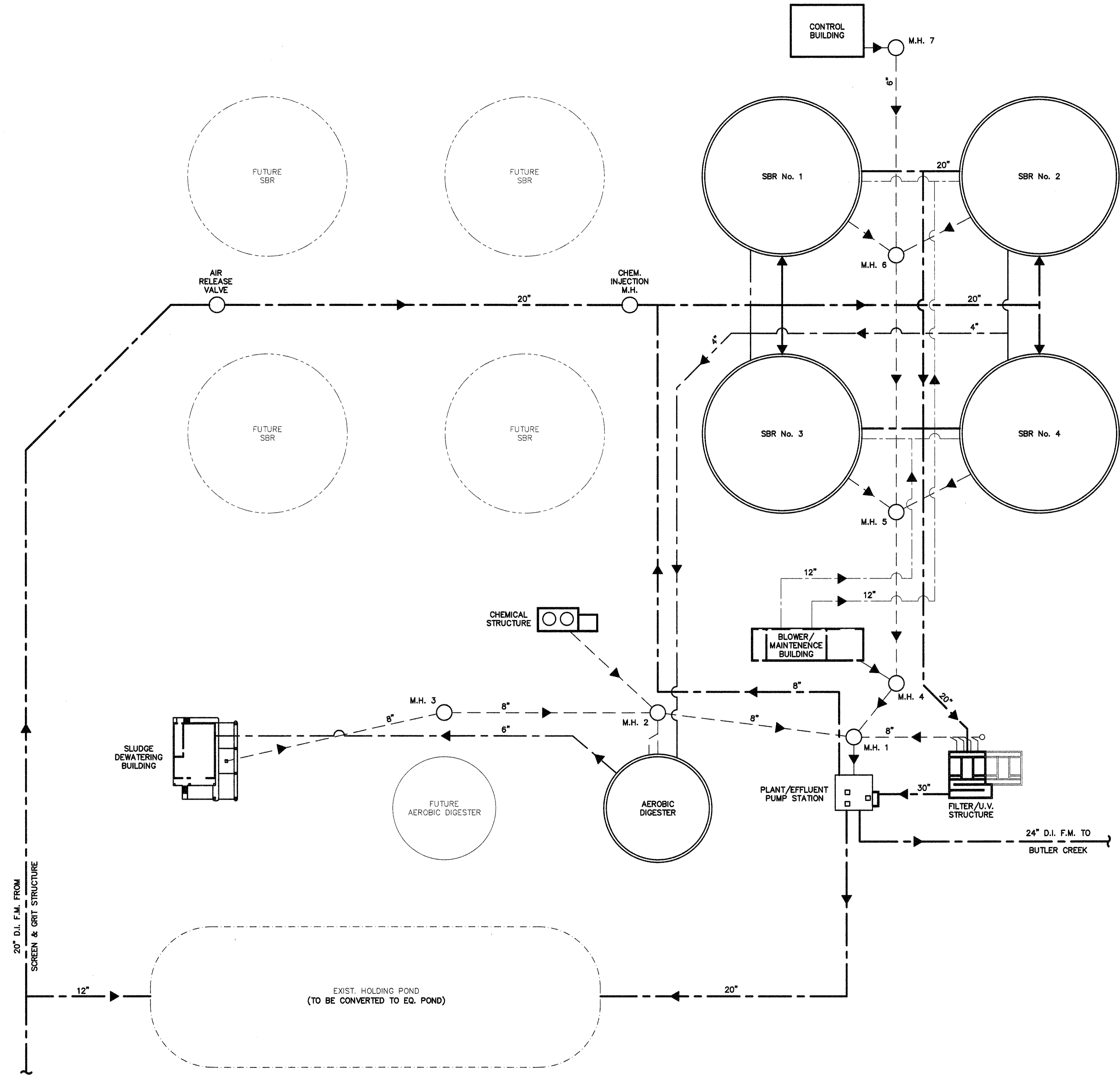


HYDRAULIC PROFILE
N.T.S.

P:\grovetown\141946 wpcp\Drawings\Phase 2\141946 Hydraulic Profile.dwg

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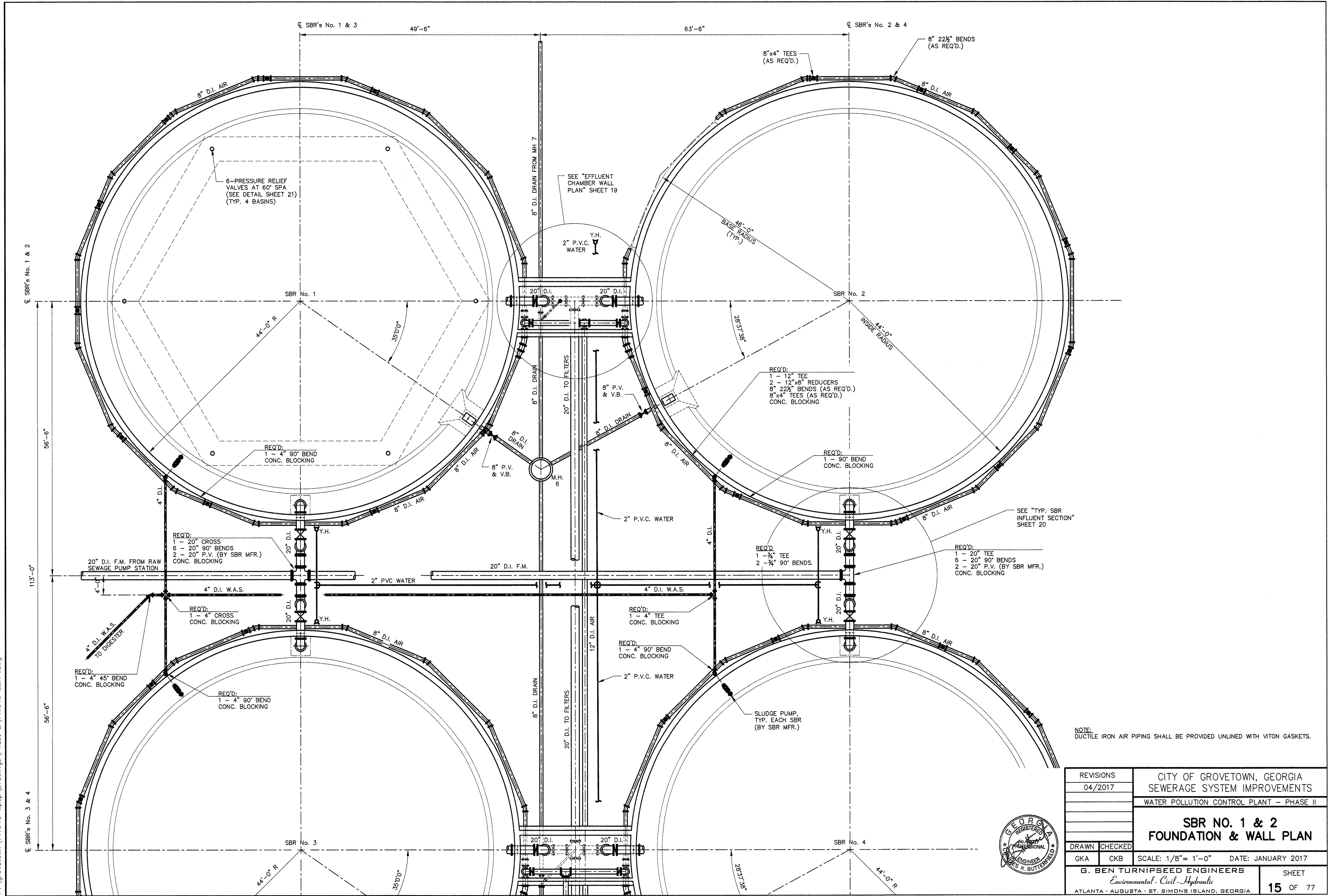
P:\grovetown\141946 wpccp\Drawings\Phase 2\141946 Hydraulic Profile.dwg



CHEM FEED SCHEMATIC

REVISIONS 04/2017 05/2017		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
DRAWN: GKA CHECKED: CKB		SCALE: N.T.S. DATE: JANUARY 2017	
G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i> ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 14 OF 77	

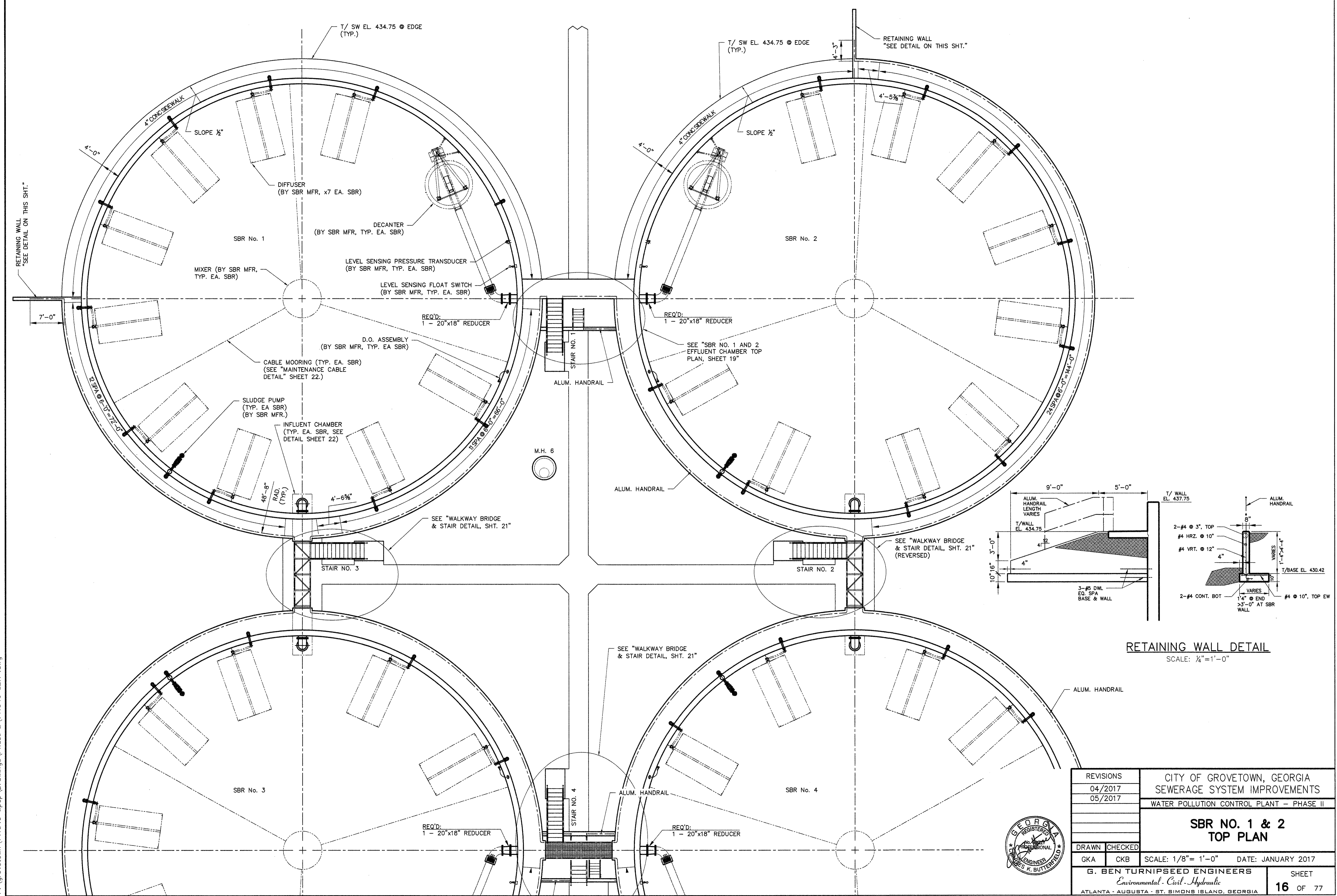




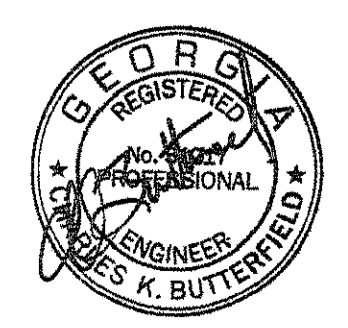
NOTE:
DUCTILE IRON AIR PIPING SHALL BE PROVIDED UNLINED WITH VITON GASKETS.

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SBR NO. 1 & 2 FOUNDATION & WALL PLAN	
DRAWN	CHECKED	SCALE: 1/8" = 1'-0" DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
		SHEET 15 OF 77	



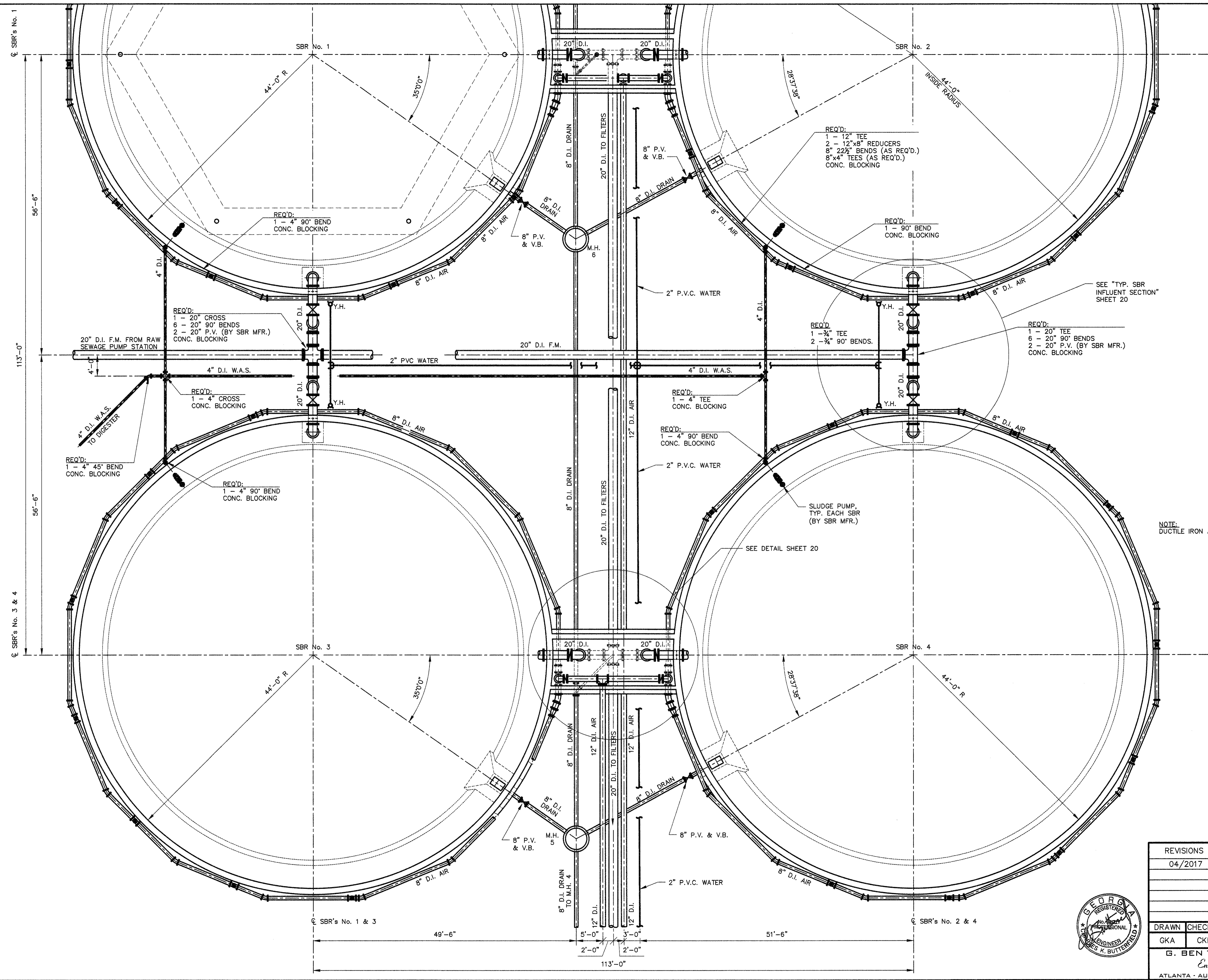


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SBR NO. 1 & 2 TOP PLAN	
05/2017			
DRAWN CHECKED		SCALE: 1/8" = 1'-0" DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 16 OF 77	

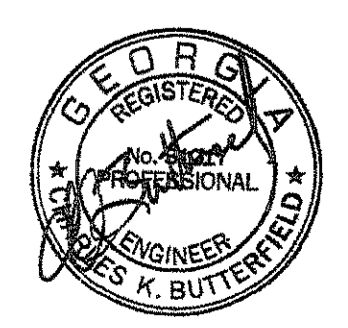


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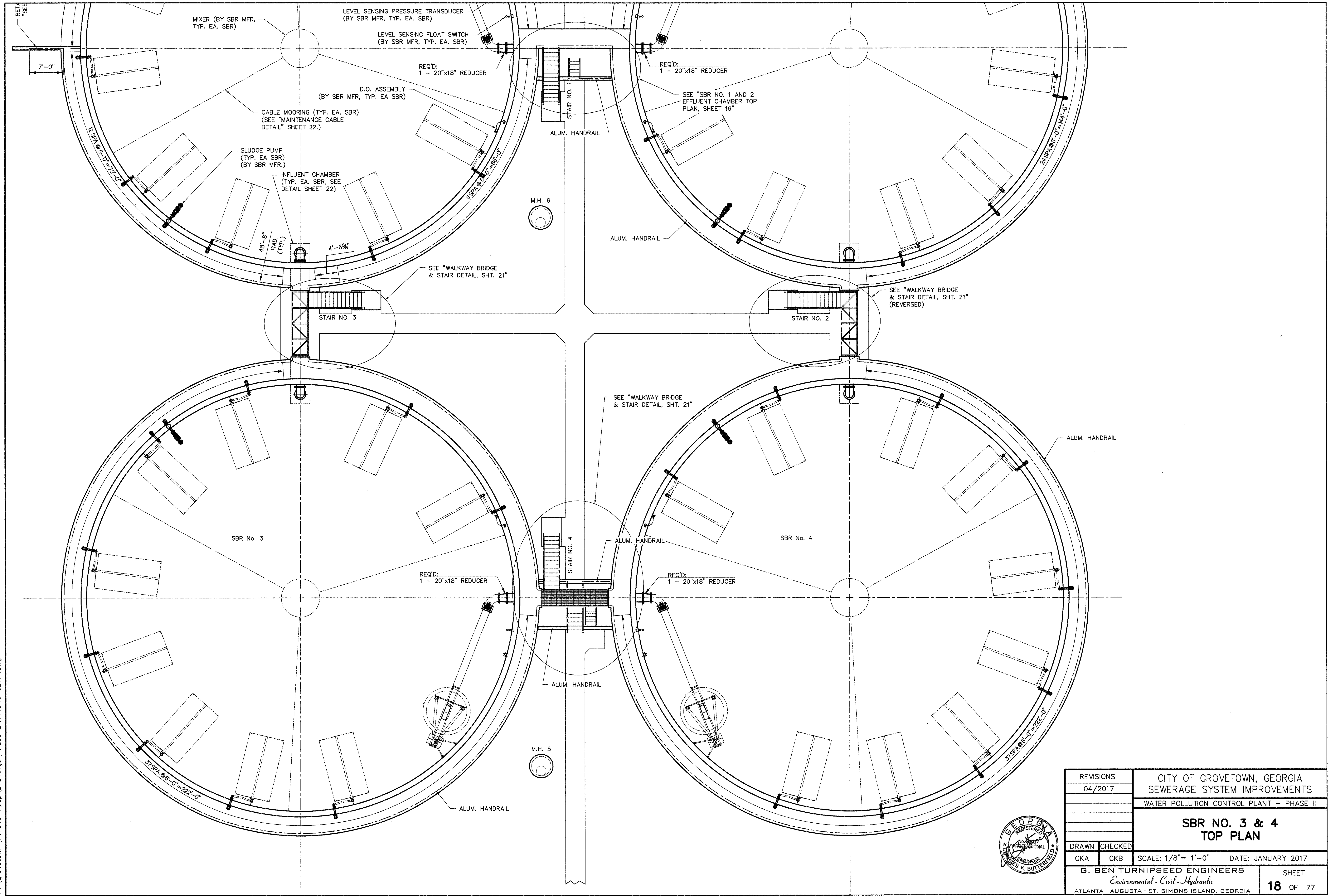
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REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SBR NO. 3 & 4 FOUNDATION & WALL PLAN	
DRAWN	CHECKED	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i> ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
GKA	CKB	SCALE: 1/8" = 1'-0"	DATE: JANUARY 2017
		SHEET 17 OF 77	

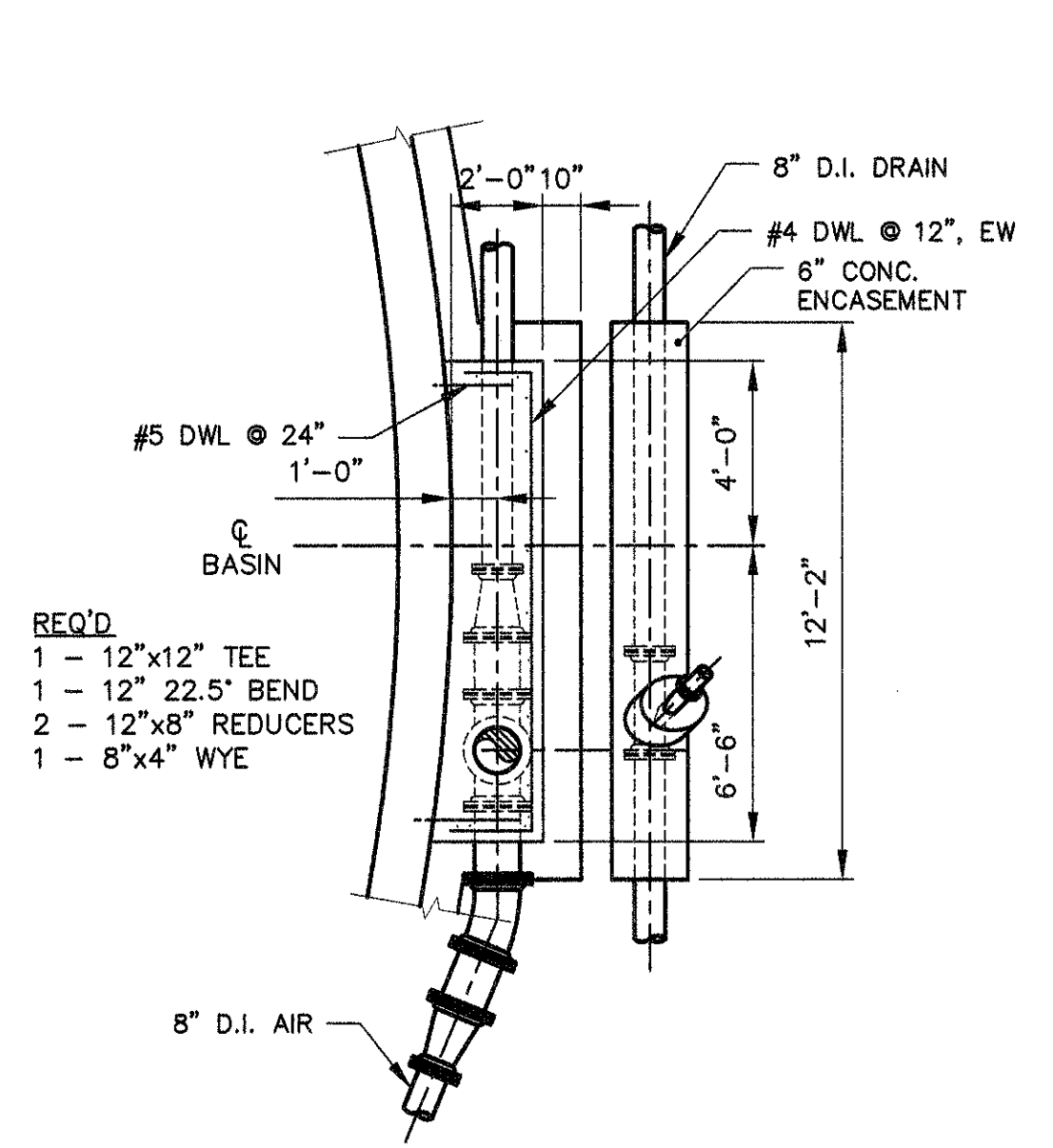


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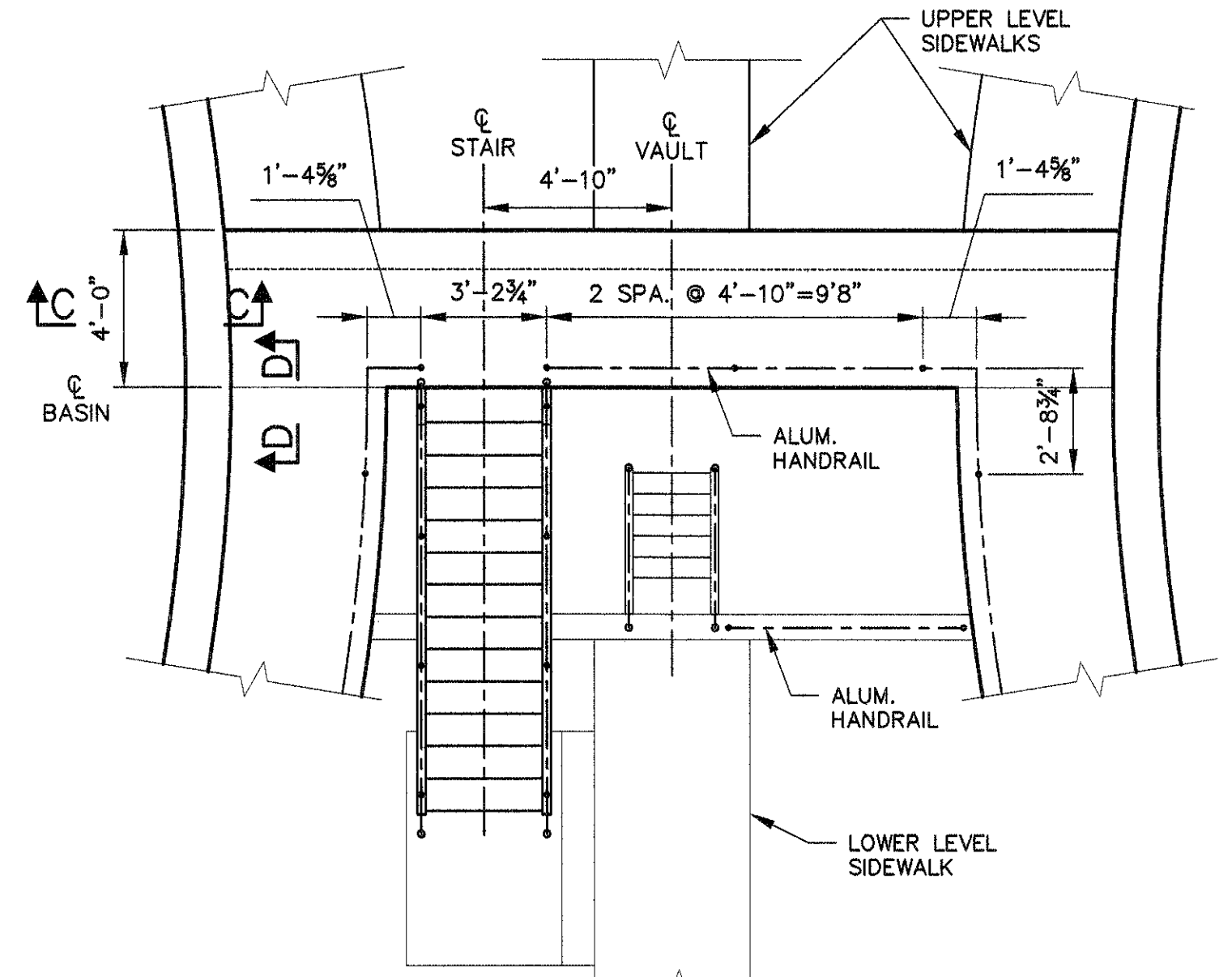


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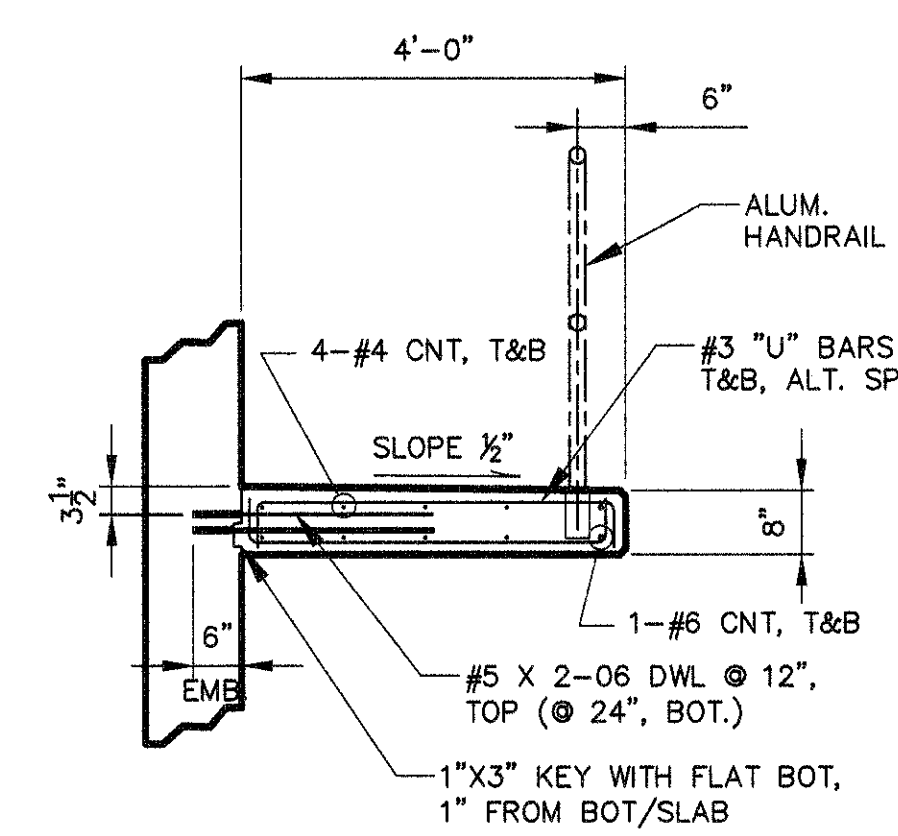
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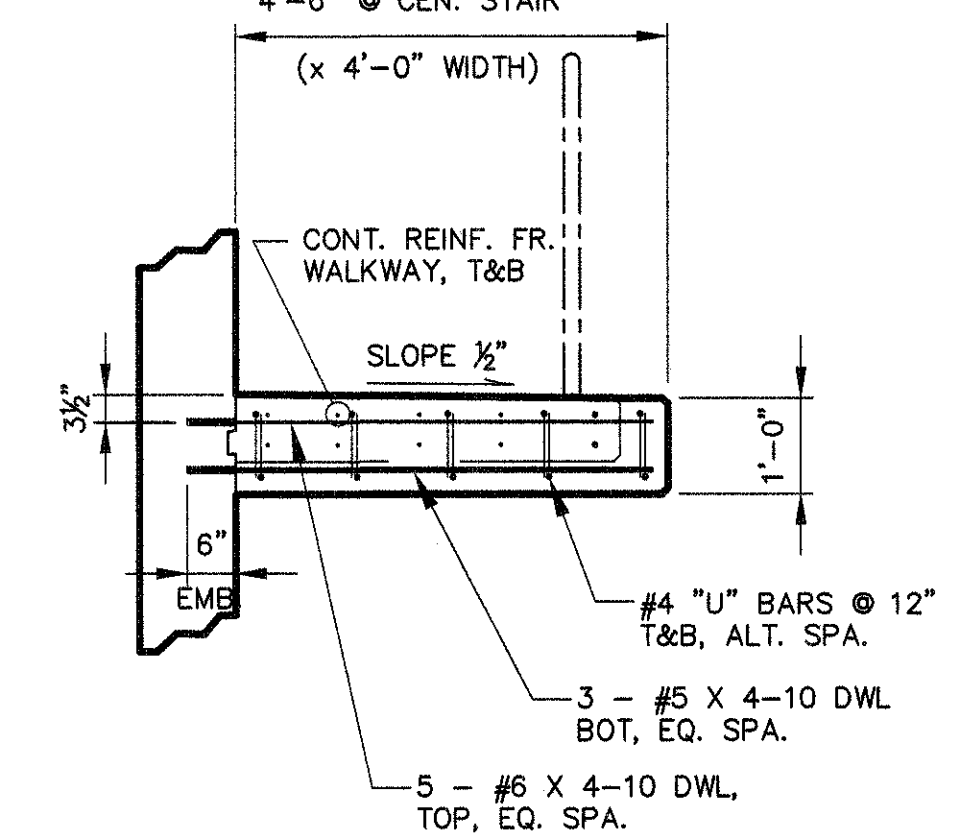
TYP. EFFLUENT CHAMBER FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



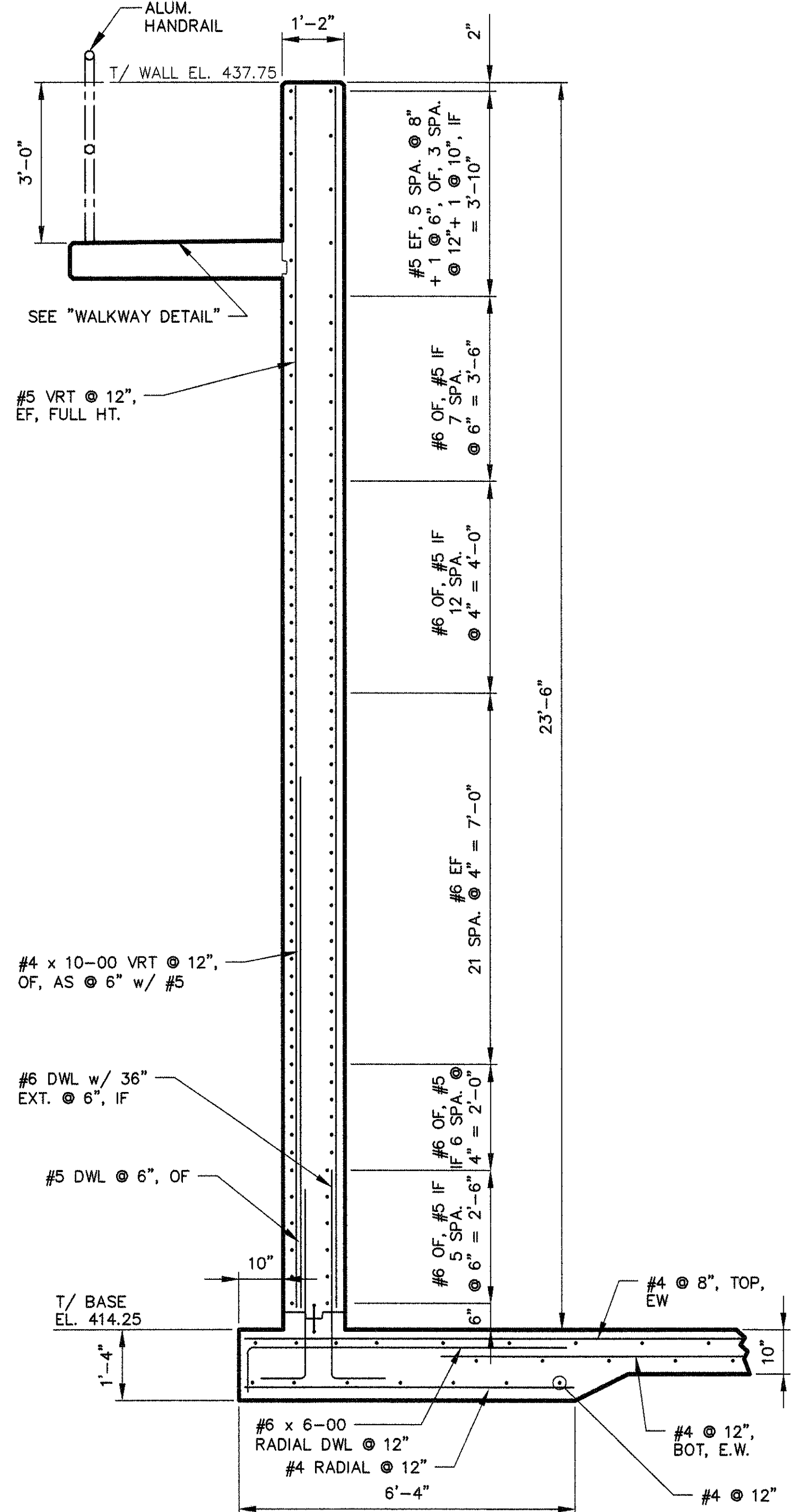
SBR NO. 1 & 2 EFFLUENT CHAMBER TOP PLAN
SCALE: 1/4" = 1'-0"



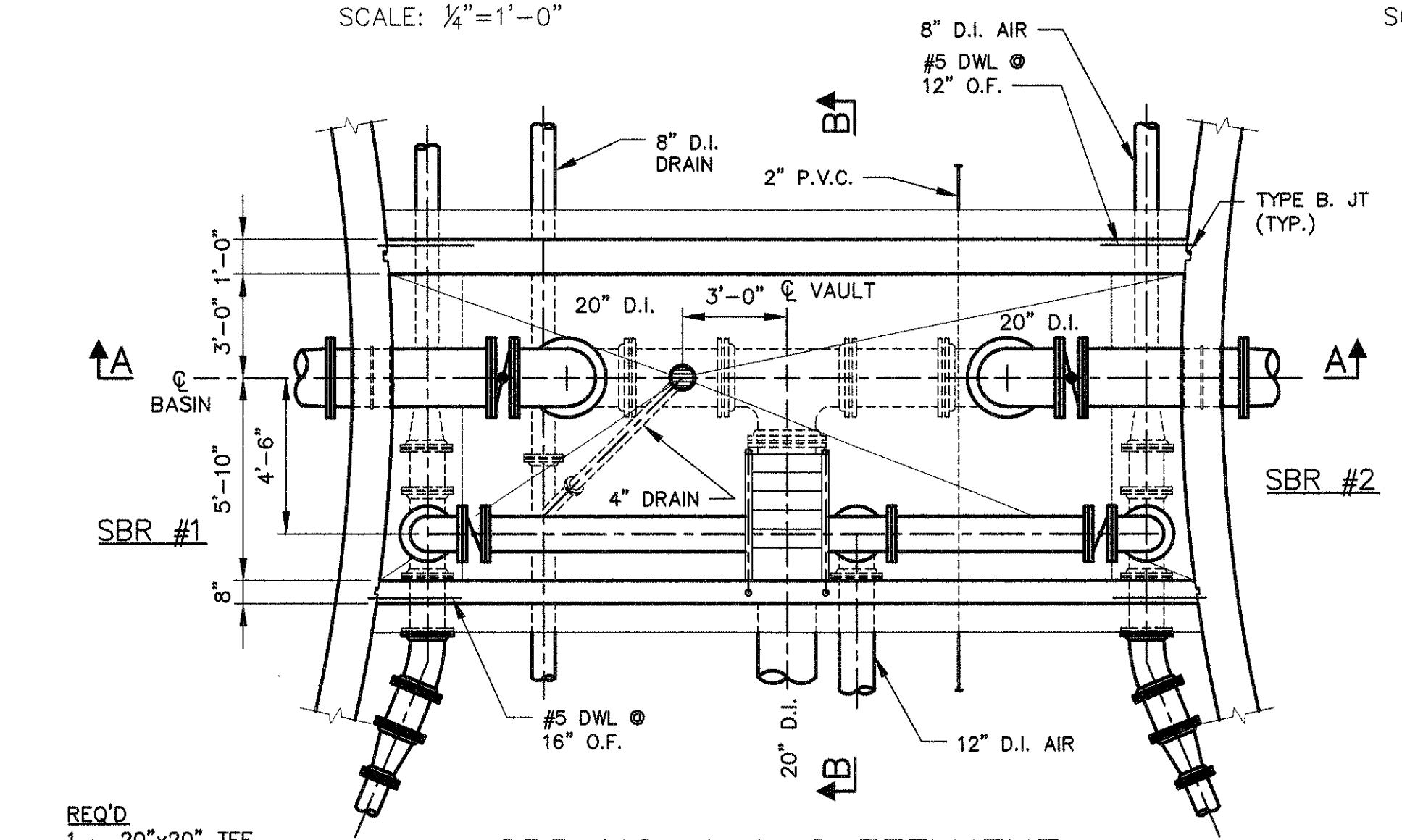
WALKWAY DETAIL
SCALE: 1/2" = 1'-0"



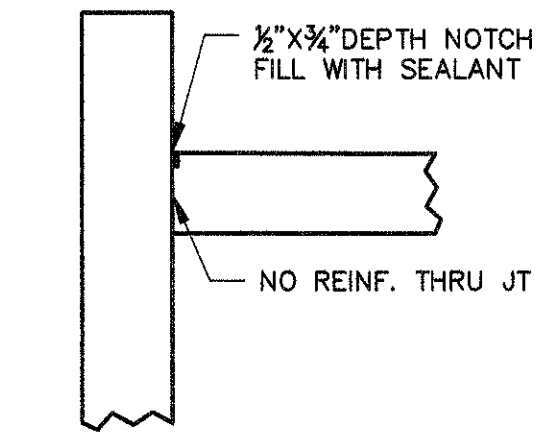
WALKWAY @ BRIDGE DETAIL
SCALE: 1/2" = 1'-0"



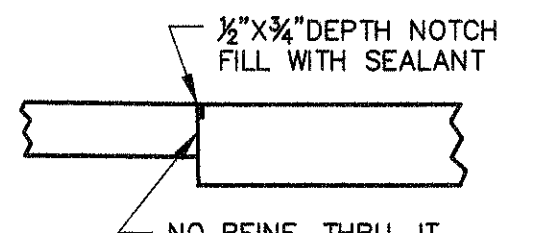
TYPICAL WALL SECTION
SCALE: 1/2" = 1'-0"



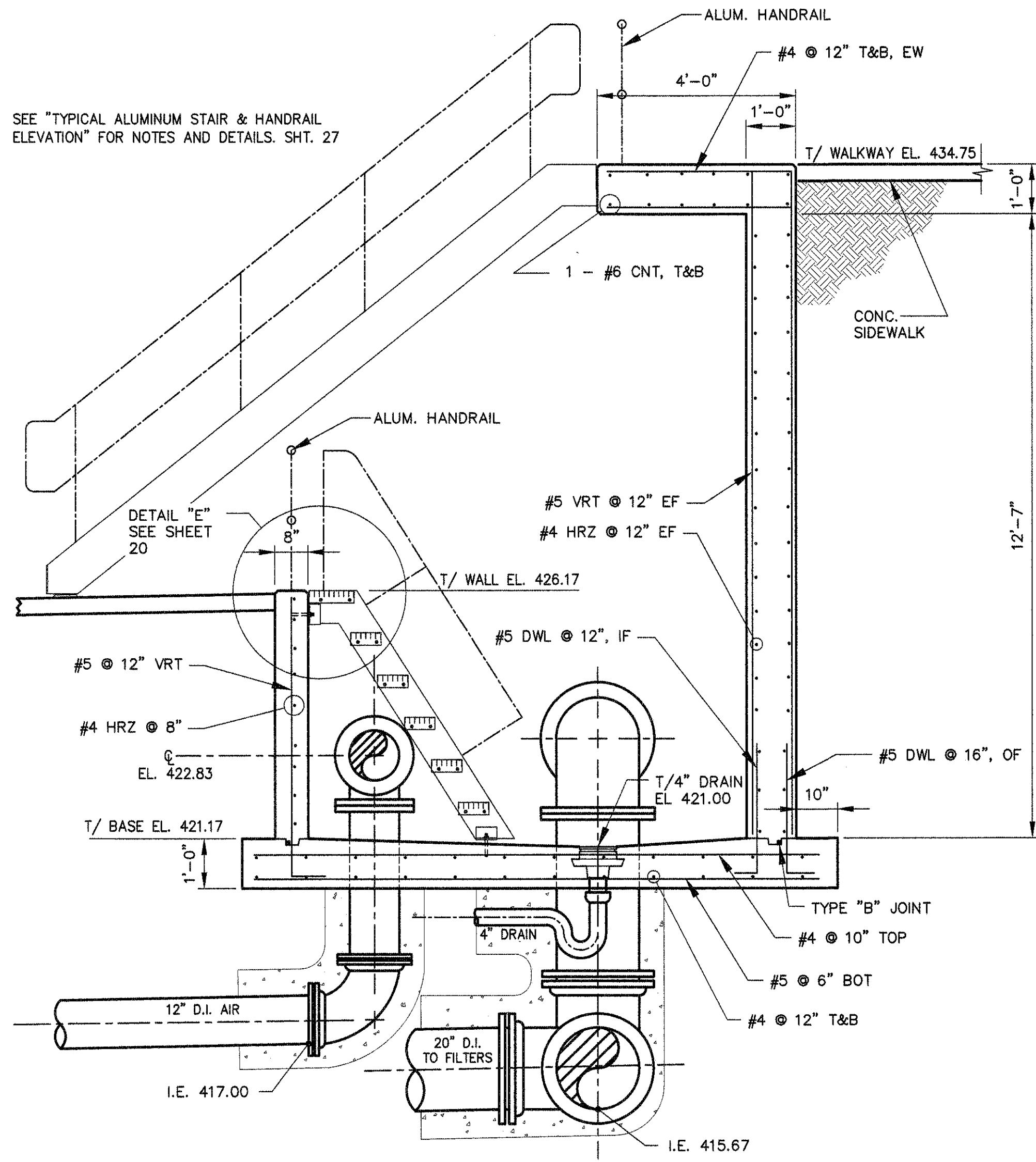
SBR NO. 1 & 2 EFFLUENT CHAMBER WALL PLAN
SCALE: 1/4" = 1'-0"



SECTION C
SCALE: 1/2" = 1'-0"



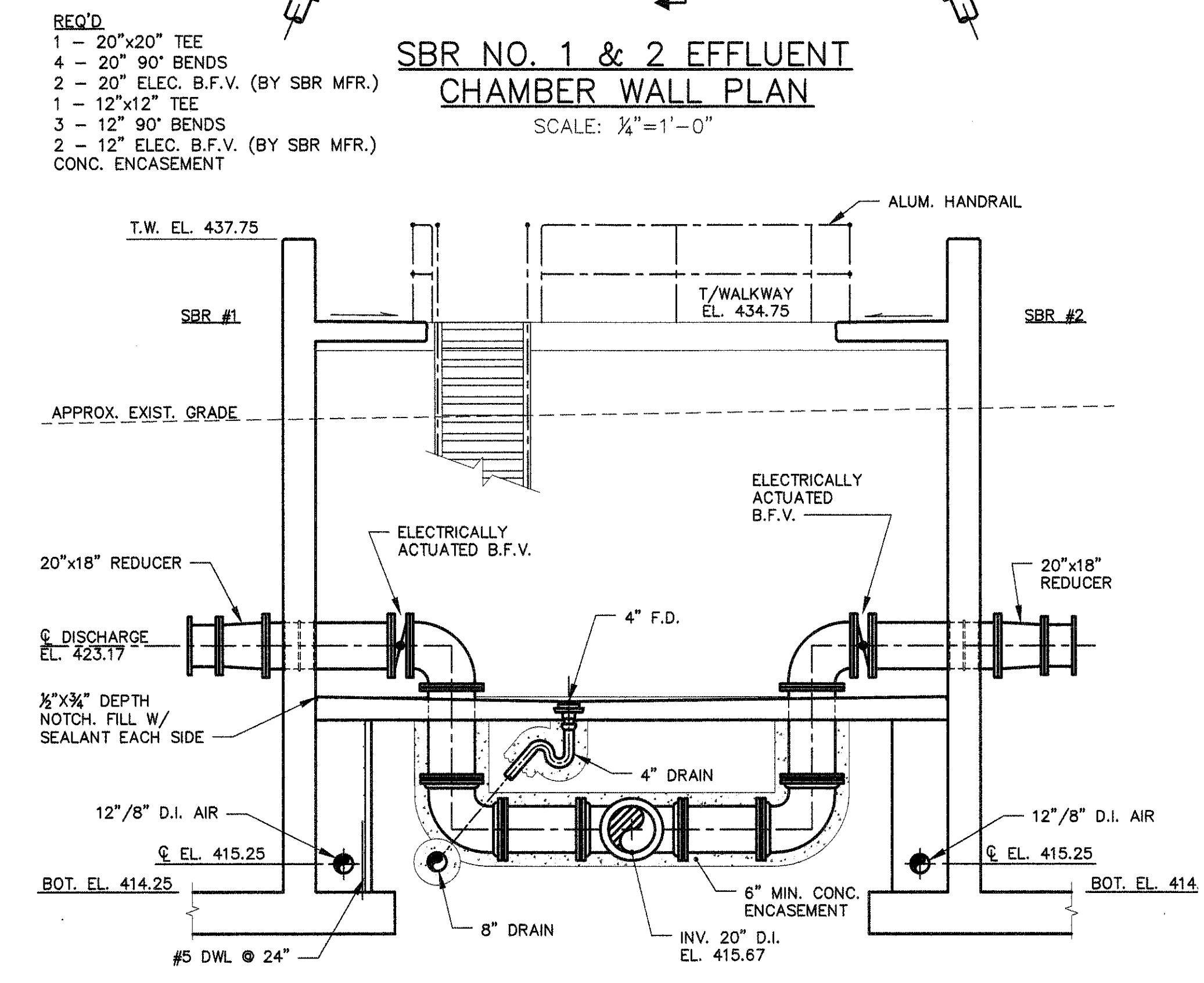
SECTION D
SCALE: 1/2" = 1'-0"



SECTION B-B
SCALE: 1/2" = 1'-0"

SEE "TYPICAL ALUMINUM STAIR & HANDRAIL ELEVATION" FOR NOTES AND DETAILS. SHT. 27

NOTE: ALL UNDERSTRUCTURE PIPING SHALL BE ENCASED IN MIN. 6" CLASS "C" CONCRETE.

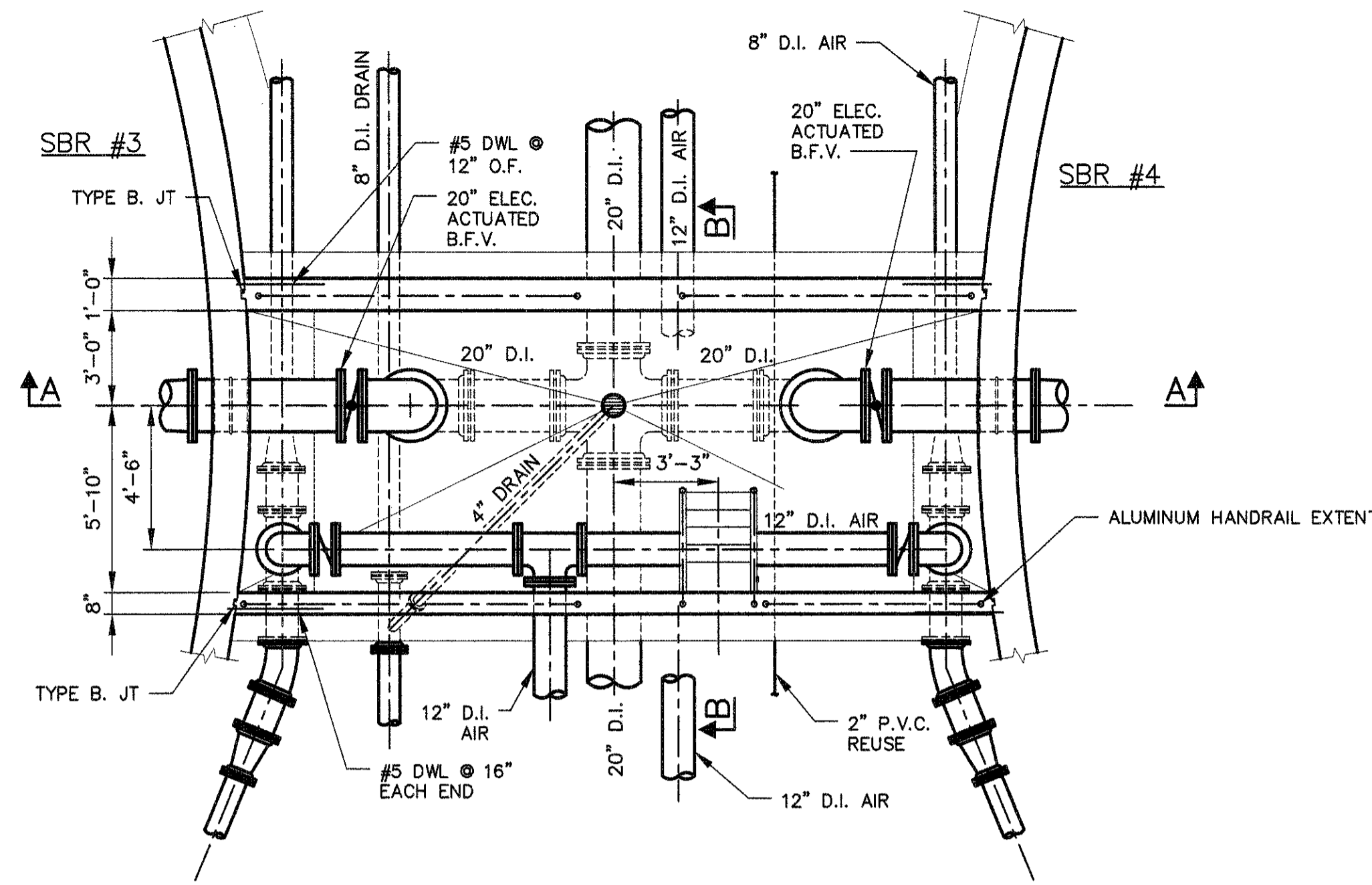


SBR's NO. 1 & 2 EFFLUENT SECTION A-A
SCALE: 1/4" = 1'-0"

NOTE: SEE "TYPICAL WALL SECTION" FOR REINFORCEMENT

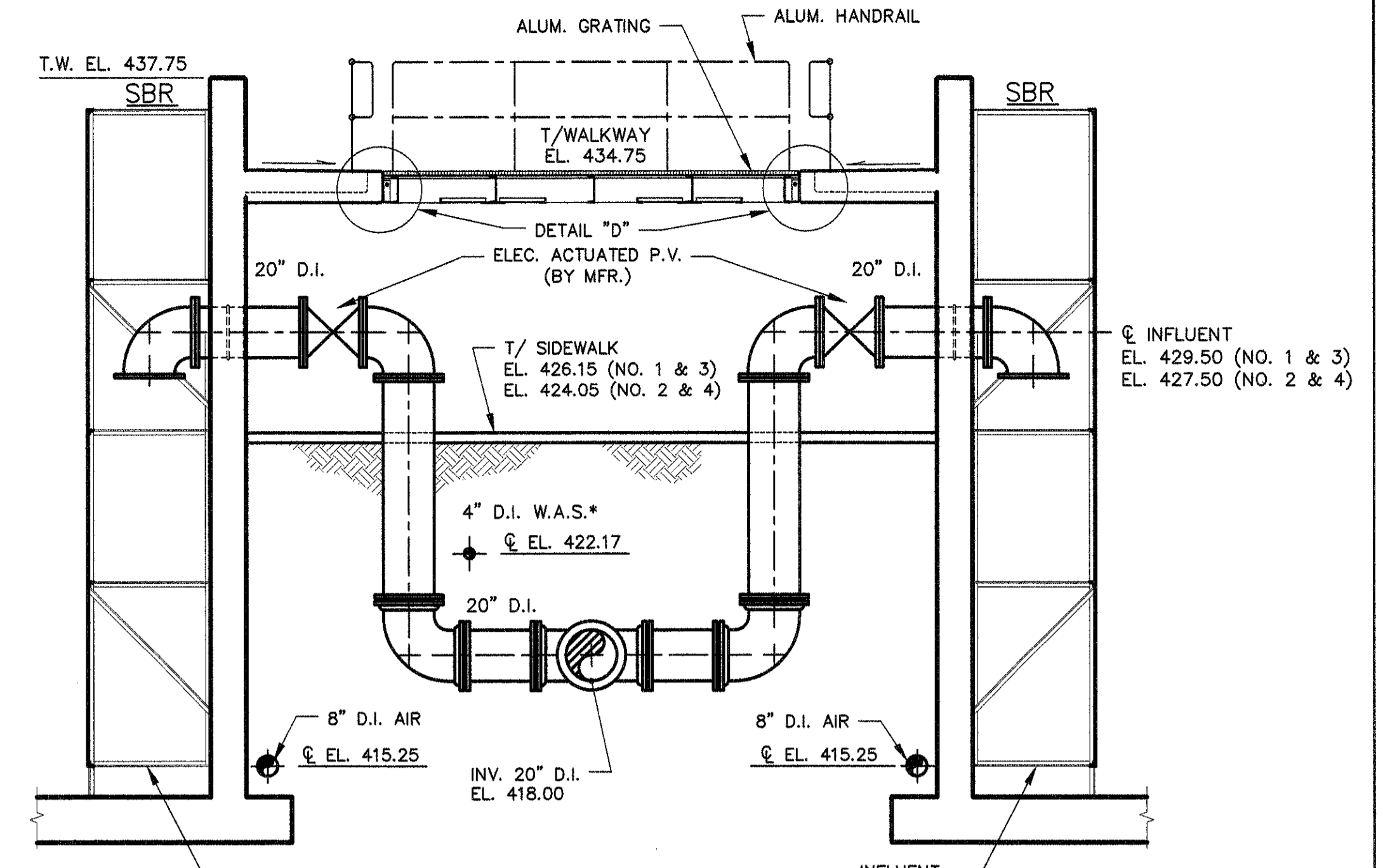


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SBR EFFLUENT CHAMBER PLAN & SECTIONS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 19 OF 77	



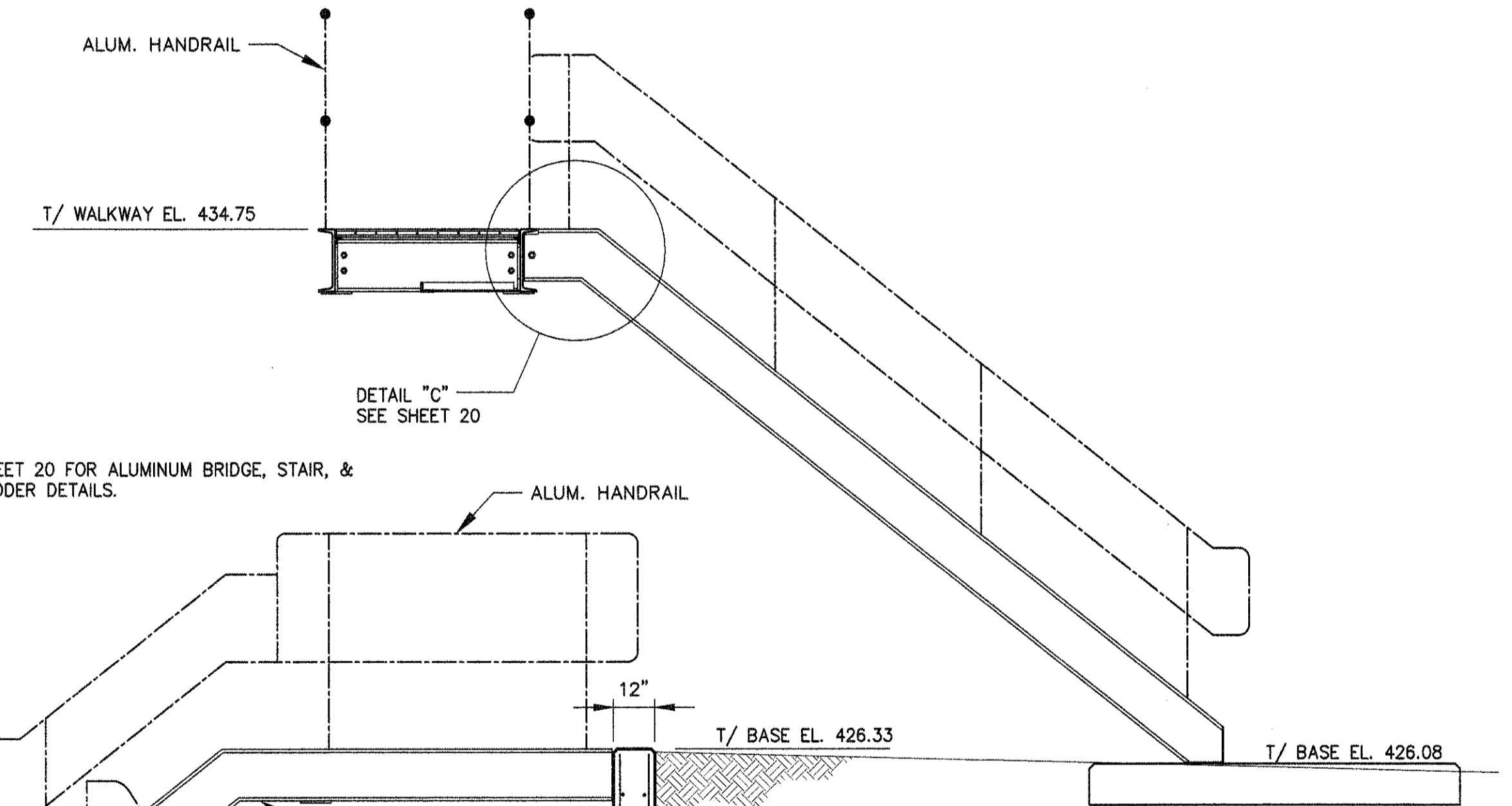
SBR NO. 3 & 4 EFFLUENT CHAMBER WALL PLAN
SCALE: 1/4" = 1'-0"

- REQ'D
- 1 - 20"x20" CROSS
 - 4 - 20" 90° BENDS
 - 2 - 20" ELEC. B.F.V. (BY SBR MFR.)
 - 1 - 12"x12" TEE
 - 3 - 12" 90° BENDS
 - 2 - 12" ELEC. B.F.V. (BY SBR MFR.)
 - CONC. ENCASEMENT



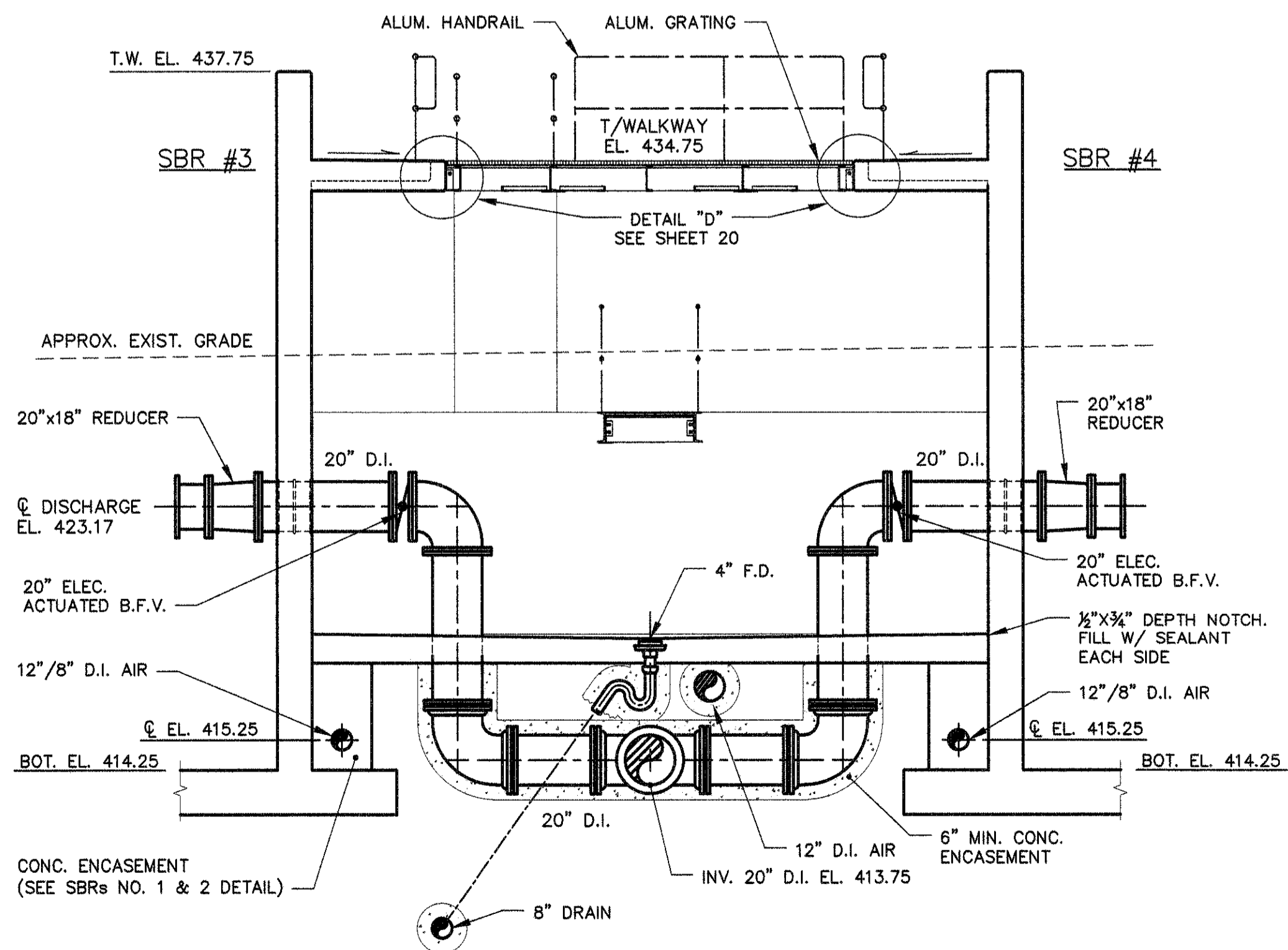
TYPICAL SBR INFLUENT SECTION
SCALE: 1/4" = 1'-0"

- REQ'D
- 1 - 20" CROSS (SBR NO. 1&3)
 - 1 - 20" TEE (SBR NO. 2&4)
 - 6 - 20" 90° BENDS
 - 2 - 20" ELEC. P.V. (BY SBR MFR.)
 - CONC. BLOCKING



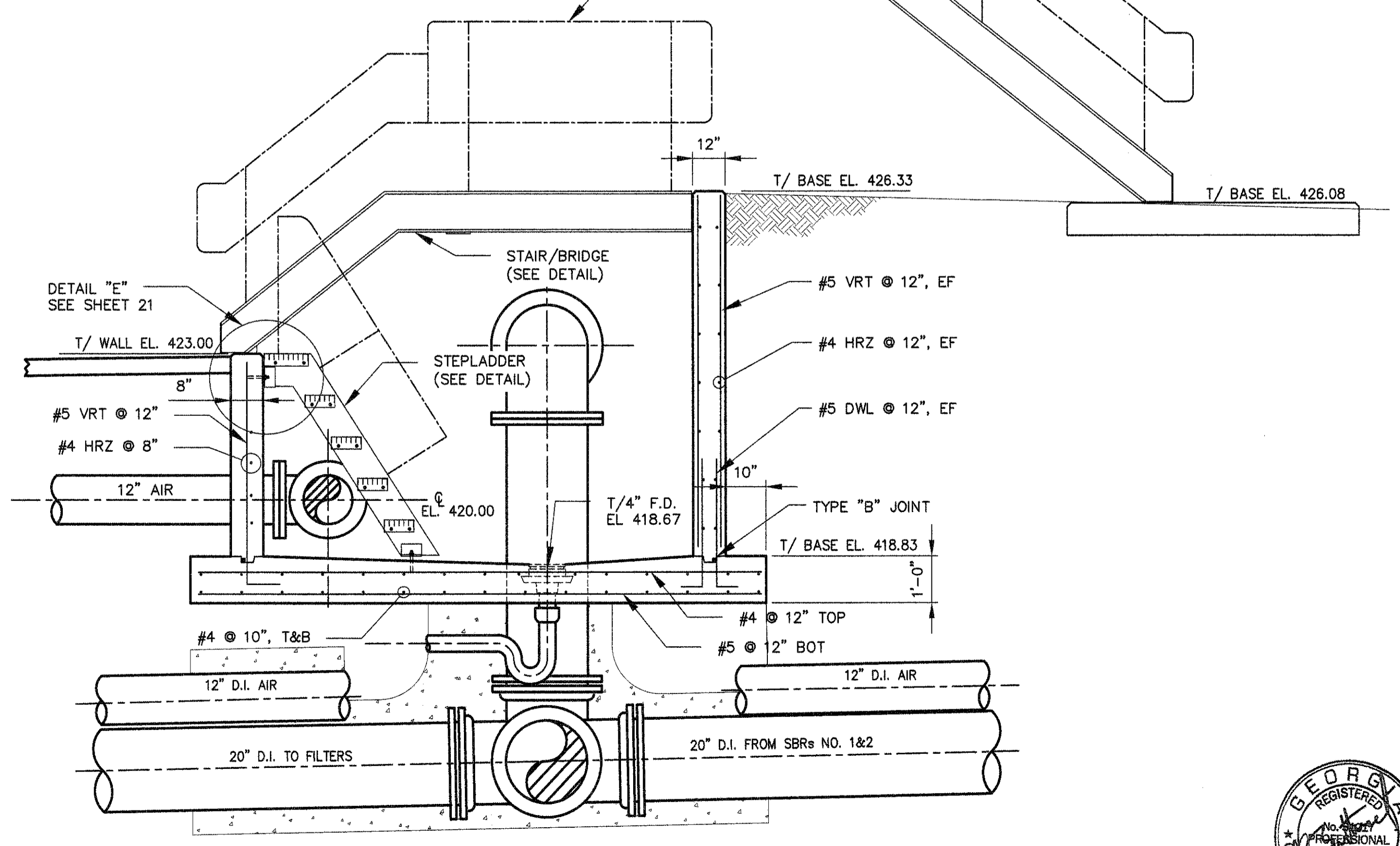
SEE SHEET 20 FOR ALUMINUM BRIDGE, STAIR, & STEPLADDER DETAILS.

SECTION B-B
SCALE: 1/2" = 1'-0"



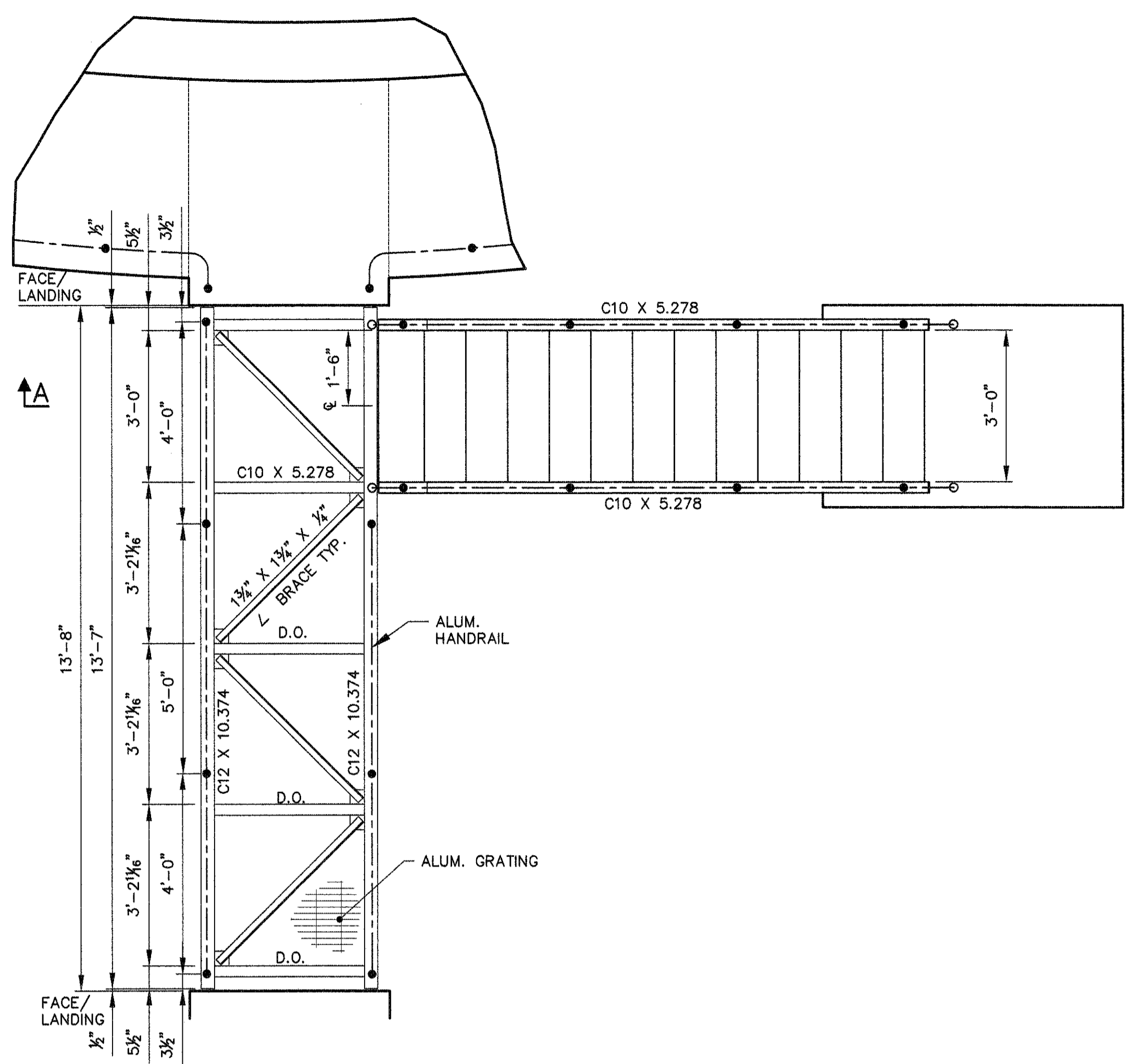
SBR's NO. 3 & 4 EFFLUENT SECTION A-A
SCALE: 1/4" = 1'-0"

NOTE:
1. SEE "TYPICAL WALL SECTION" FOR REINFORCEMENT.
2. ALL UNDERSTRUCTURE PIPING SHALL BE ENCASED IN 6" MIN. CLASS "C" CONCRETE.

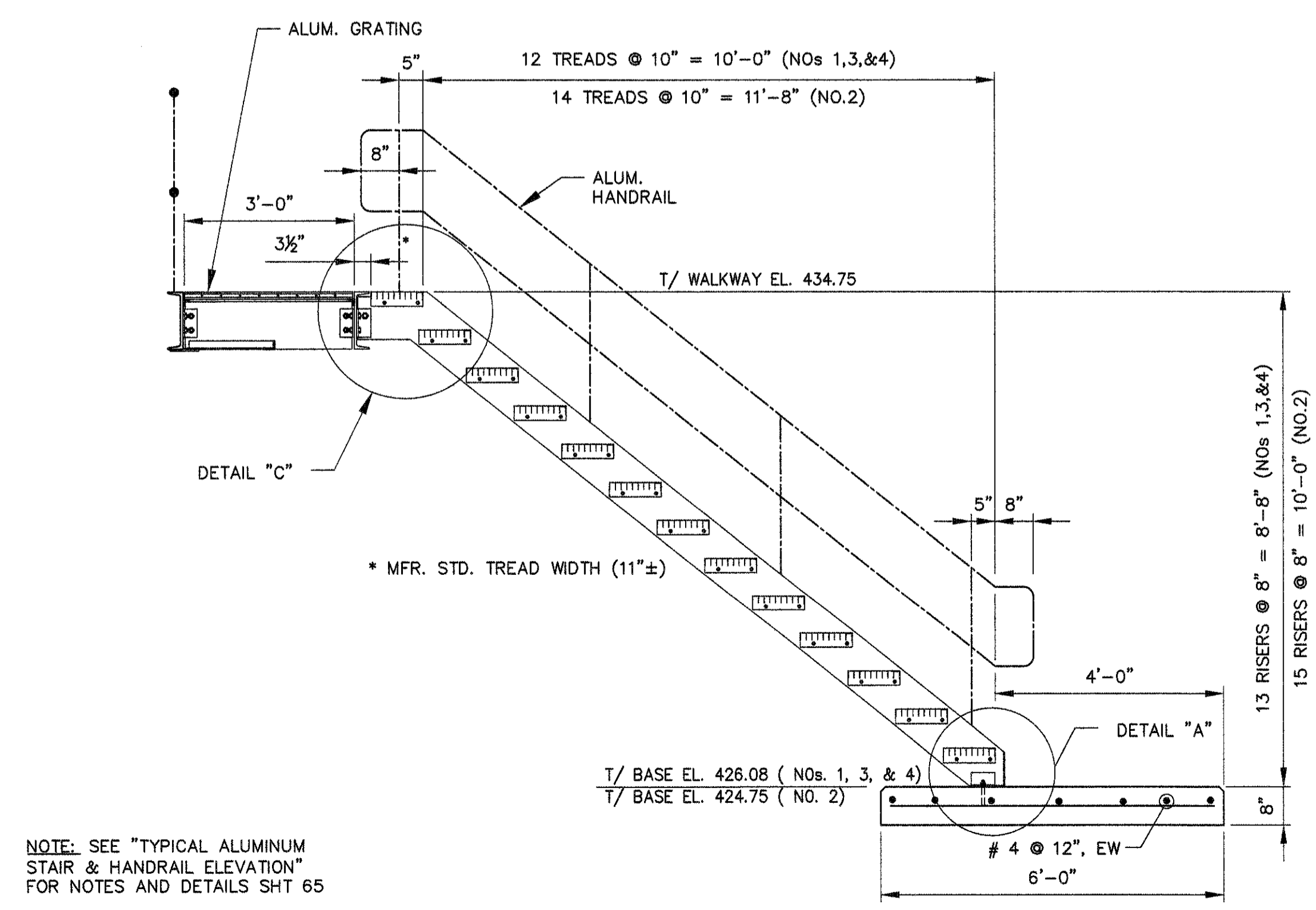


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SBR SECTIONS & DETAILS	
DRAWN / CHECKED		G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i> ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
SHEET			20 OF 77



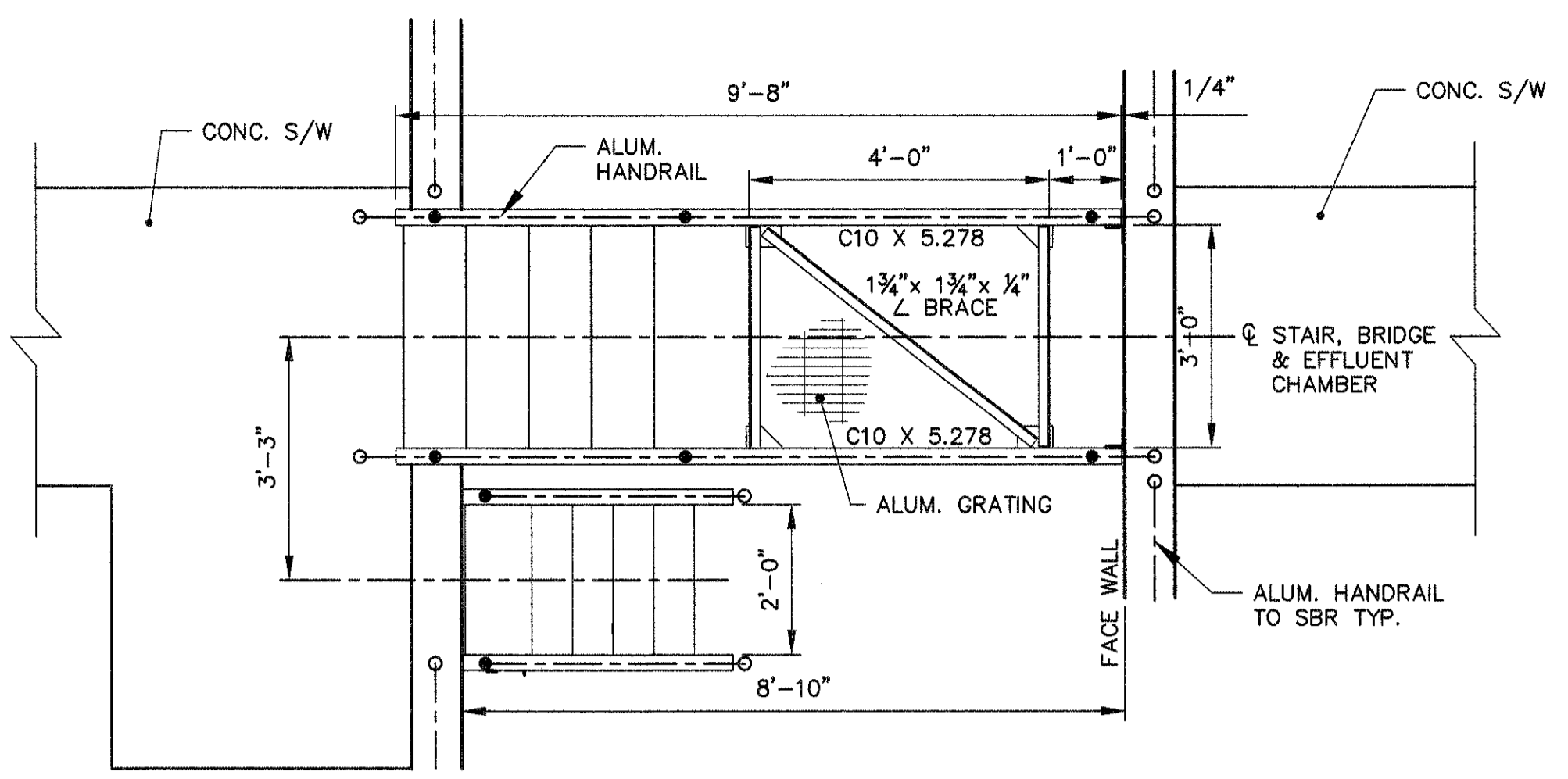


**WALKWAY BRIDGE/STAIR PLAN
NO. 2, NO. 3, & NO. 4**
SCALE: 1/2" = 1'-0"

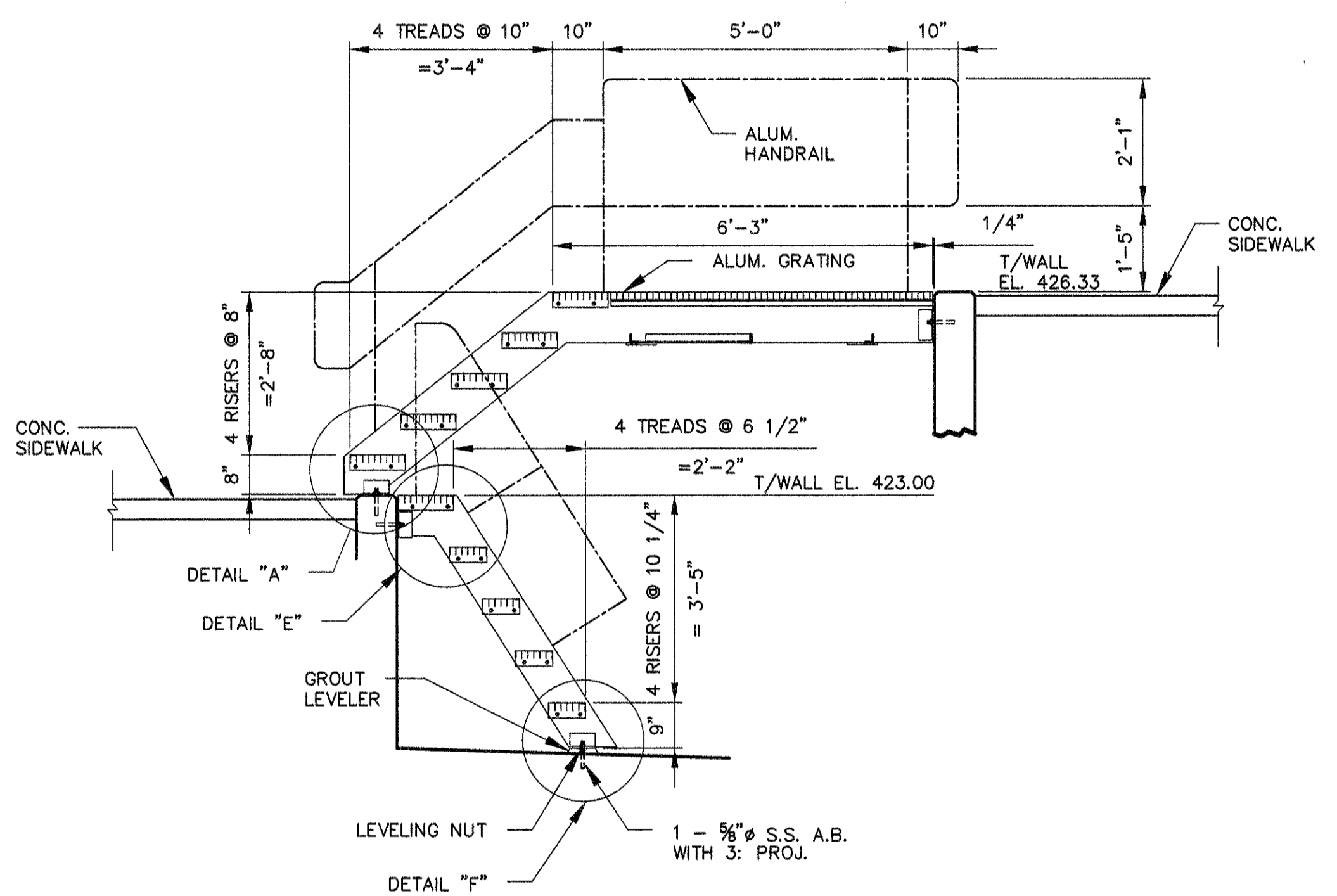


SECTION A-A
SCALE: 1/2" = 1'-0"

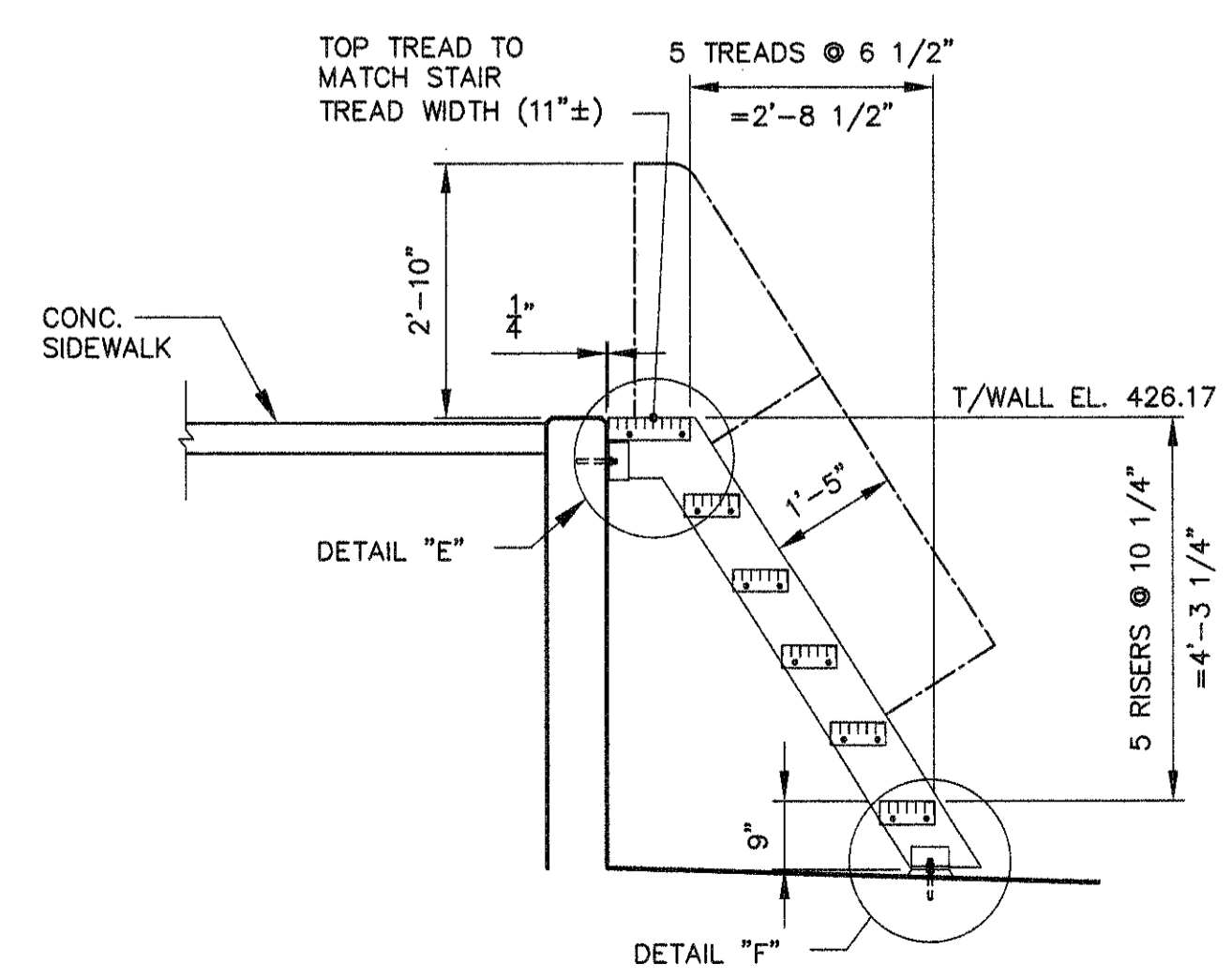
NOTE: SEE "TYPICAL ALUMINUM STAIR & HANDRAIL ELEVATION" FOR NOTES AND DETAILS SHT 65



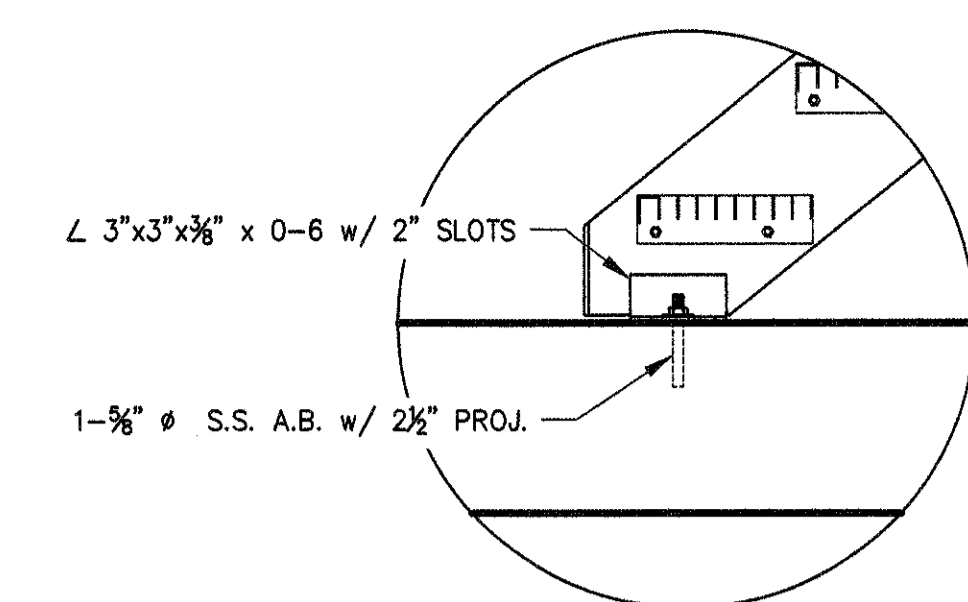
**STAIR/BRIDGE & STEPLADDER PLAN
@ SBR NO.3 & NO.4 EFFLUENT CHAMBER**
SCALE: 1/2" = 1'-0"



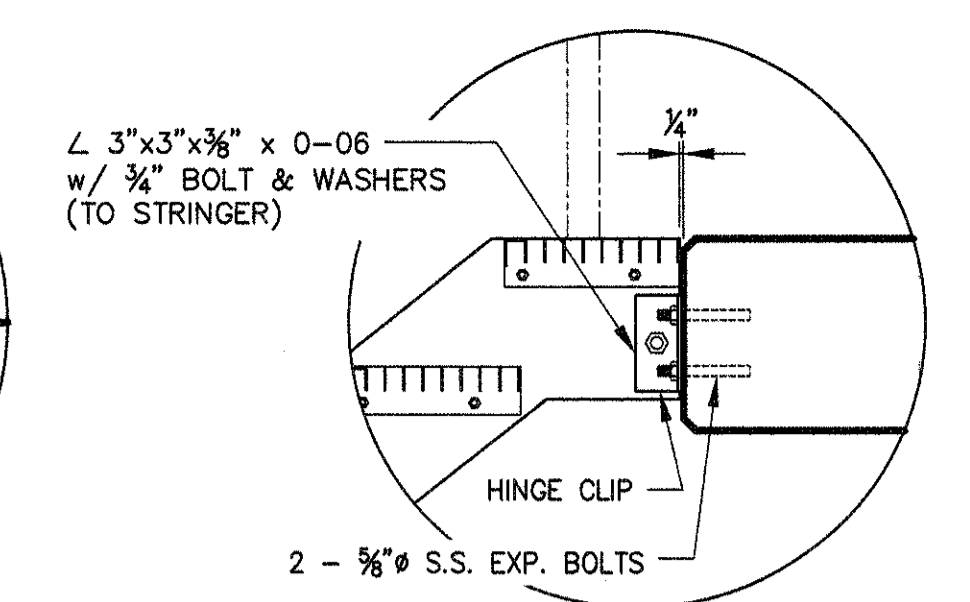
STAIR/BRIDGE & STEPLADDER ELEVATION
SCALE: 1/2" = 1'-0"



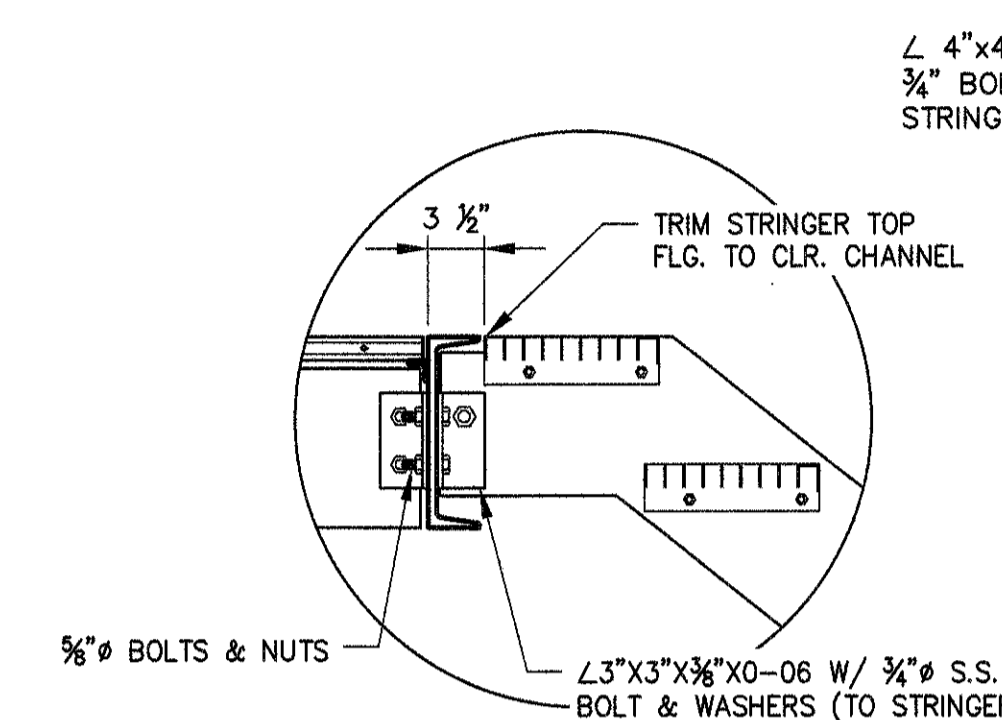
**STEPLADDER ELEVATION
@ SBR NO.1 & NO.2 EFFLUENT CHAMBER**
SCALE: 1/2" = 1'-0"



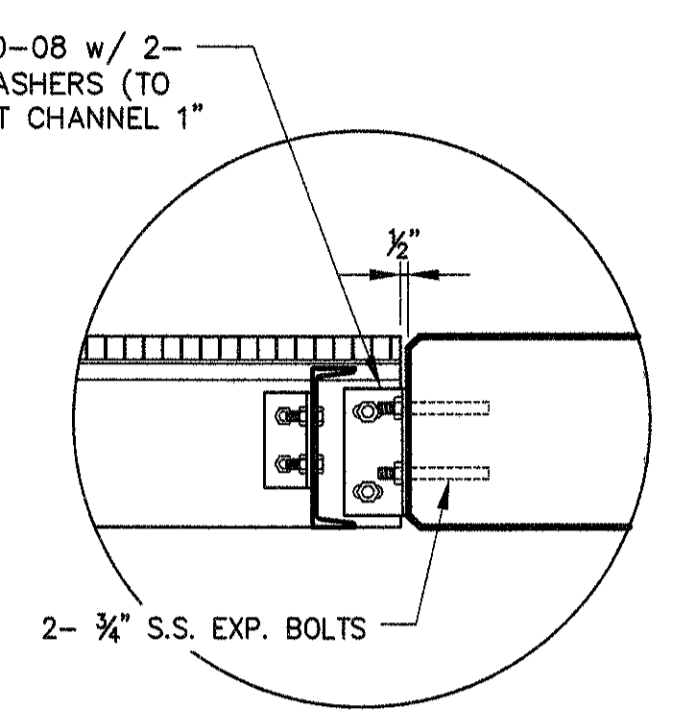
DETAIL "A"
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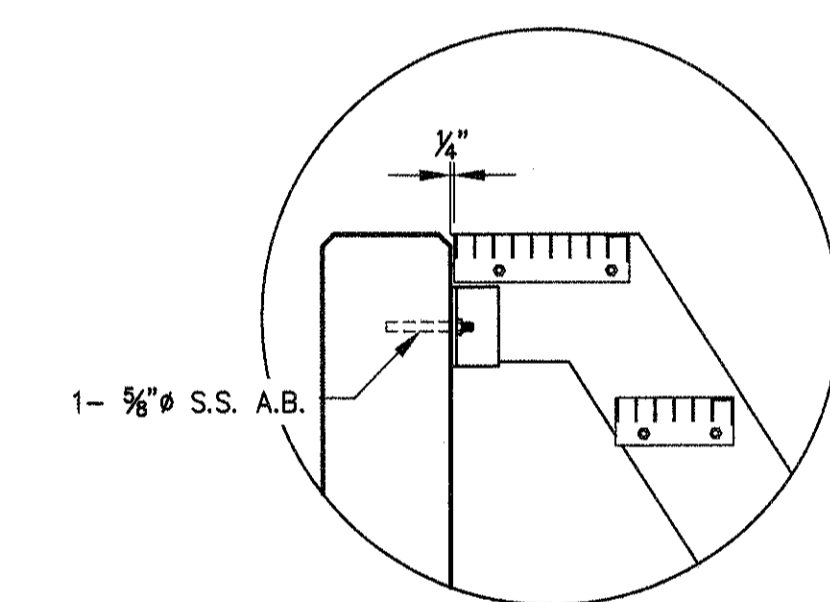
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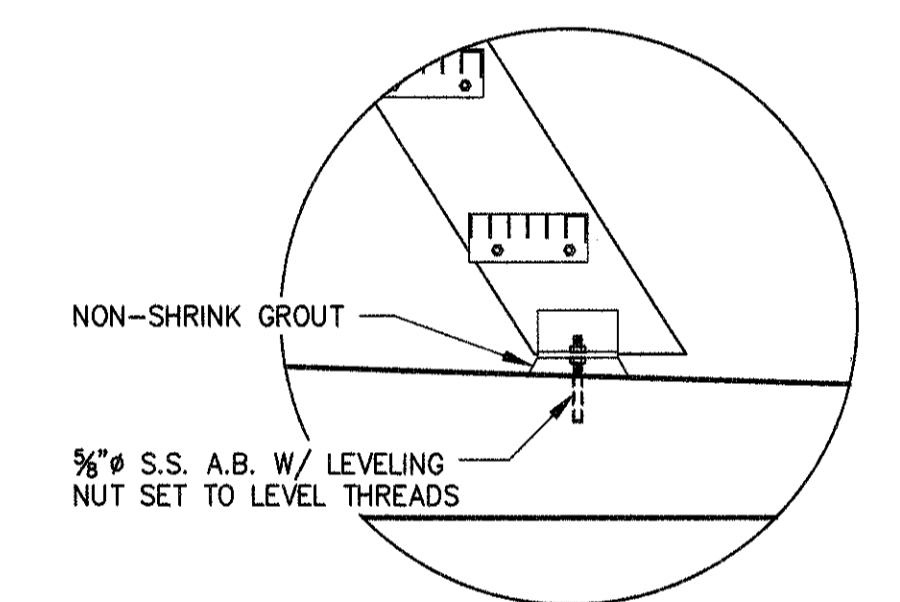
DETAIL "C"
SCALE: 1" = 1'-0"



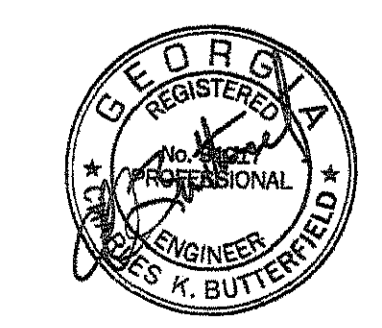
DETAIL "D"
SCALE: 1" = 1'-0"



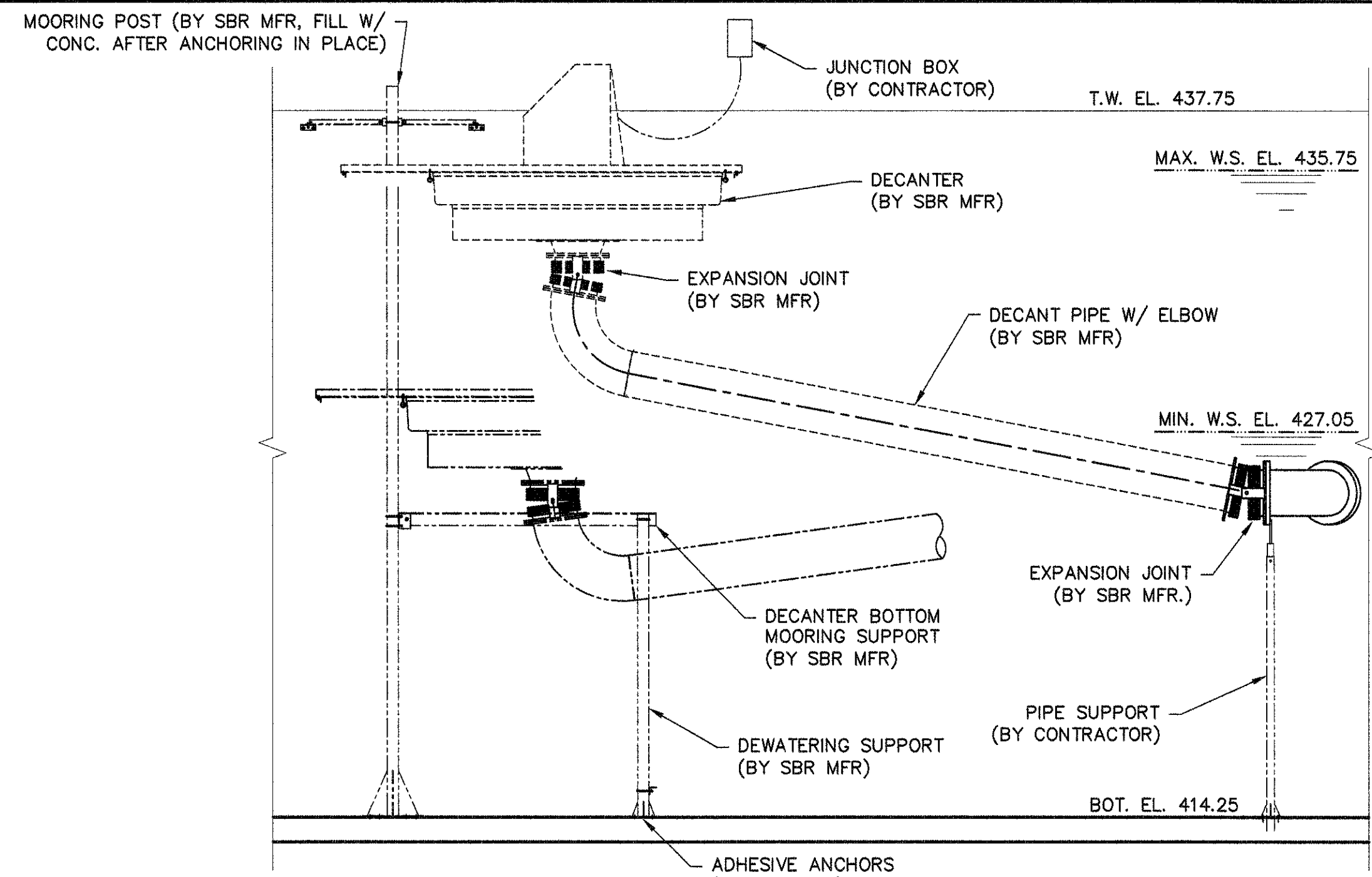
DETAIL "E"
SCALE: 1" = 1'-0"



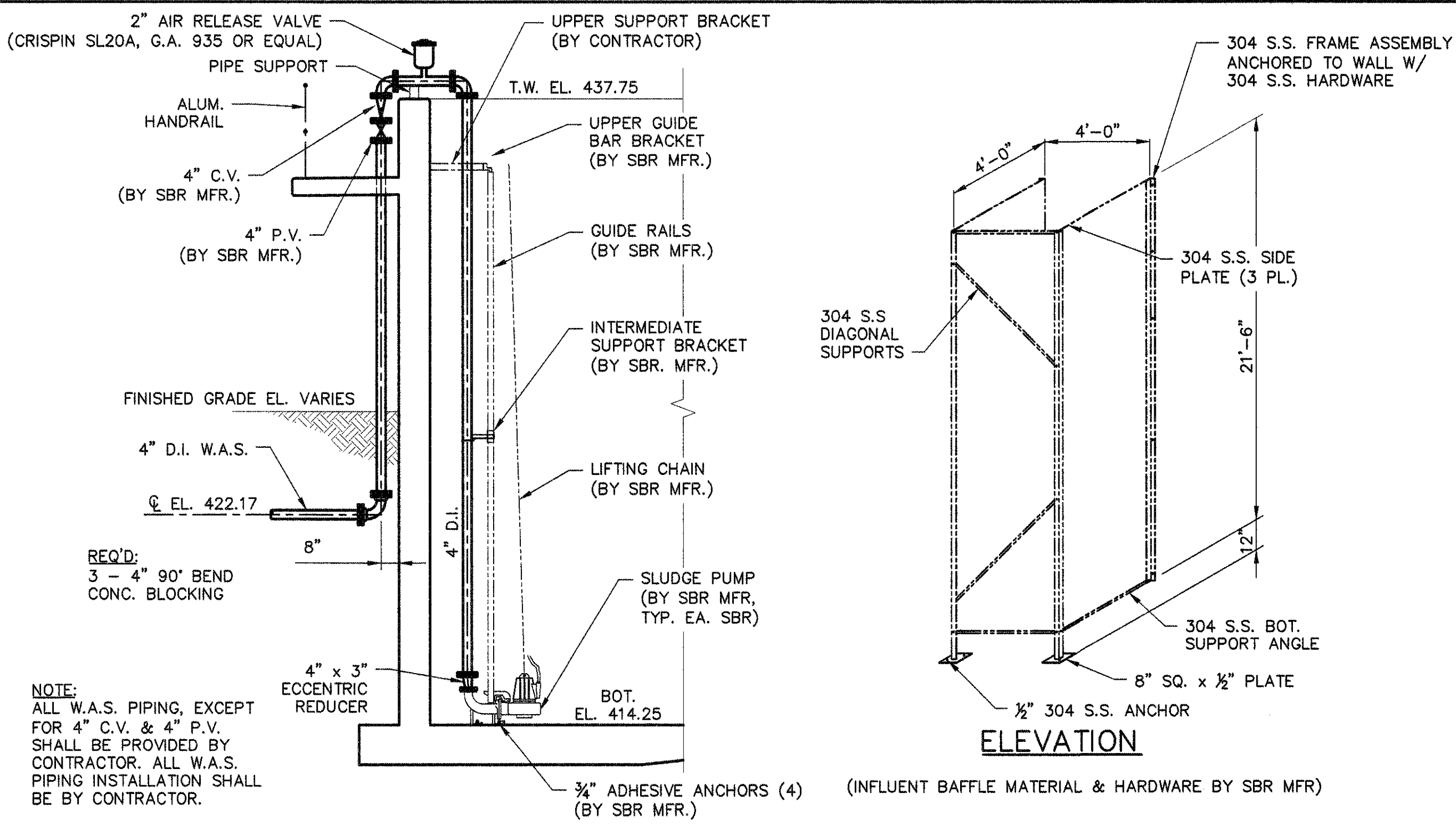
DETAIL "F"
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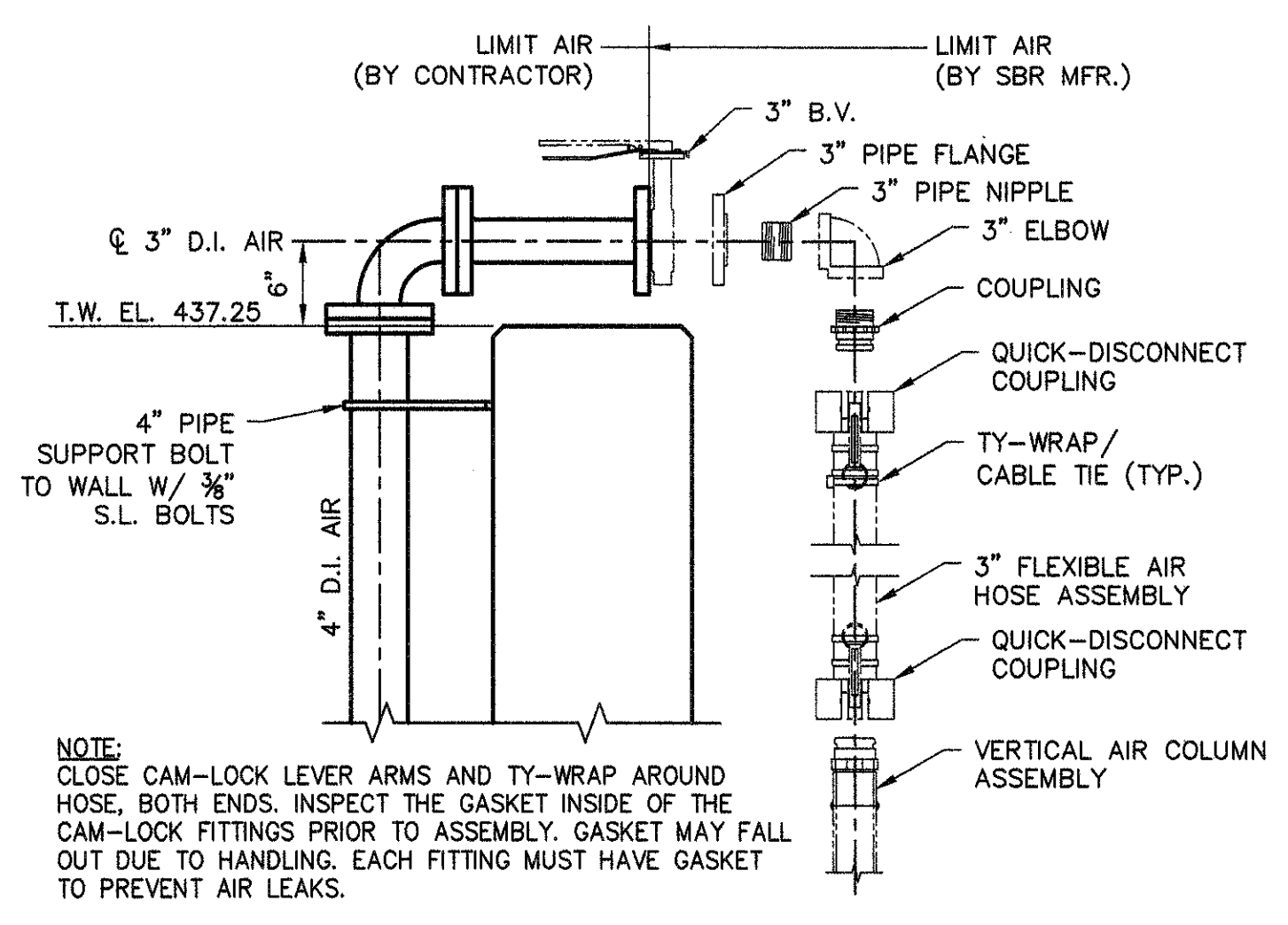
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SBR STAIR & LADDER PLANS SECTIONS & DETAILS	
DRAWN	CHECKED		
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 21 OF 77	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			



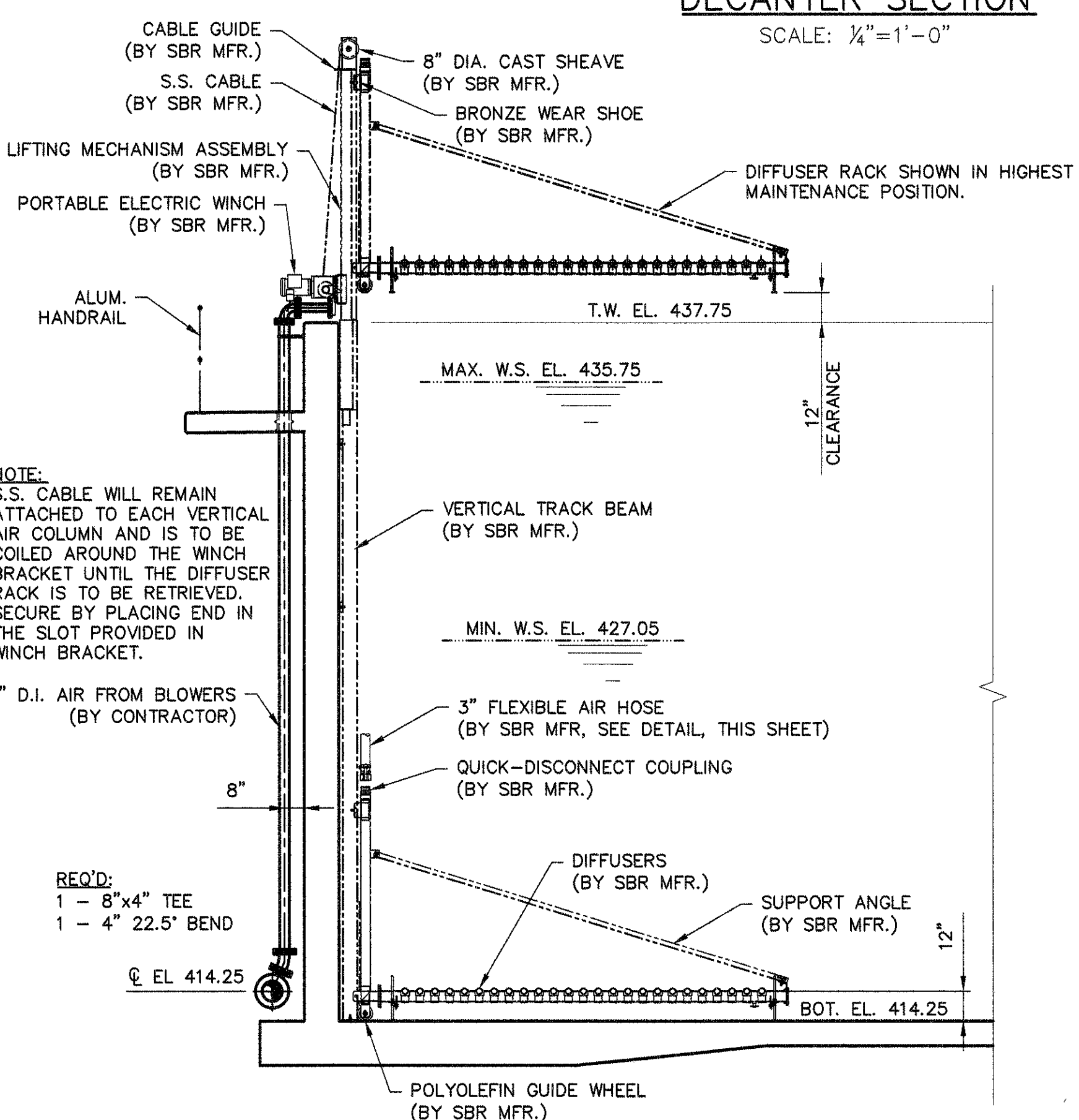
DECANTER SECTION
SCALE: 1/4"=1'-0"



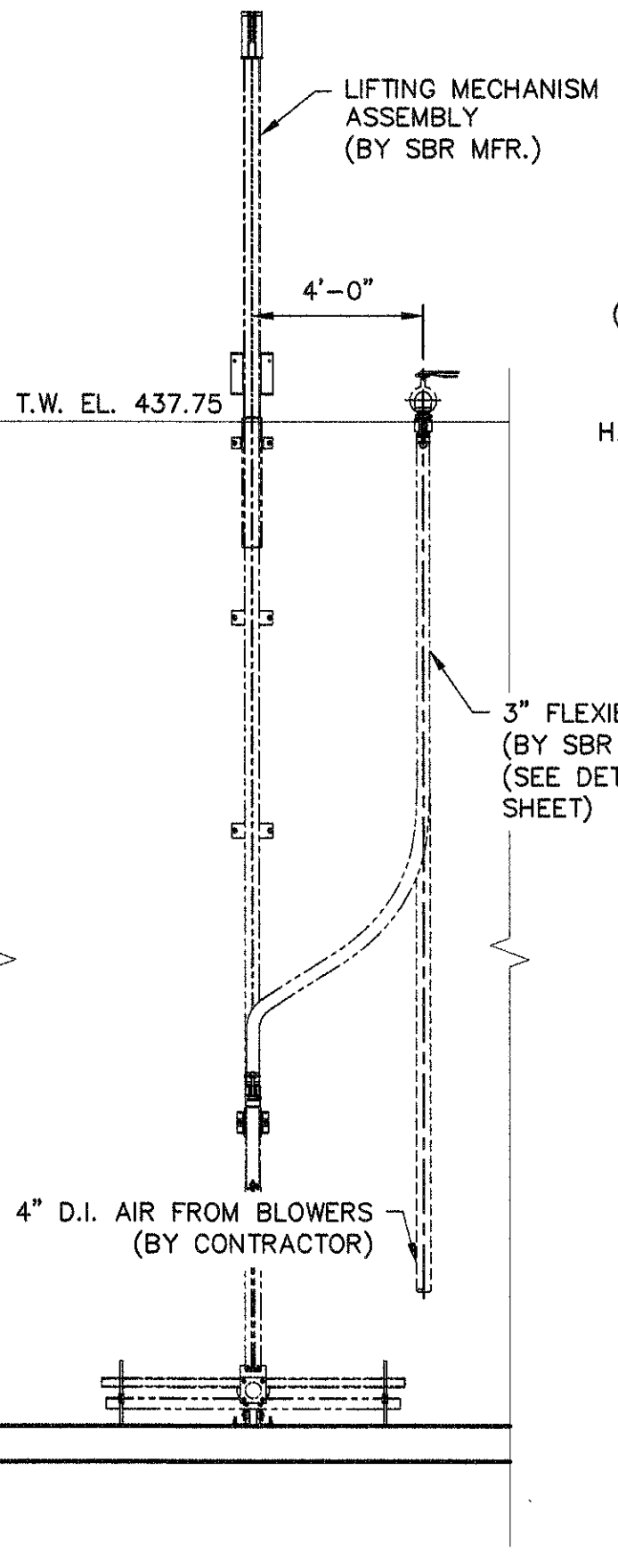
TYPICAL SLUDGE PUMP SECTION
SCALE: 1/4"=1'-0"



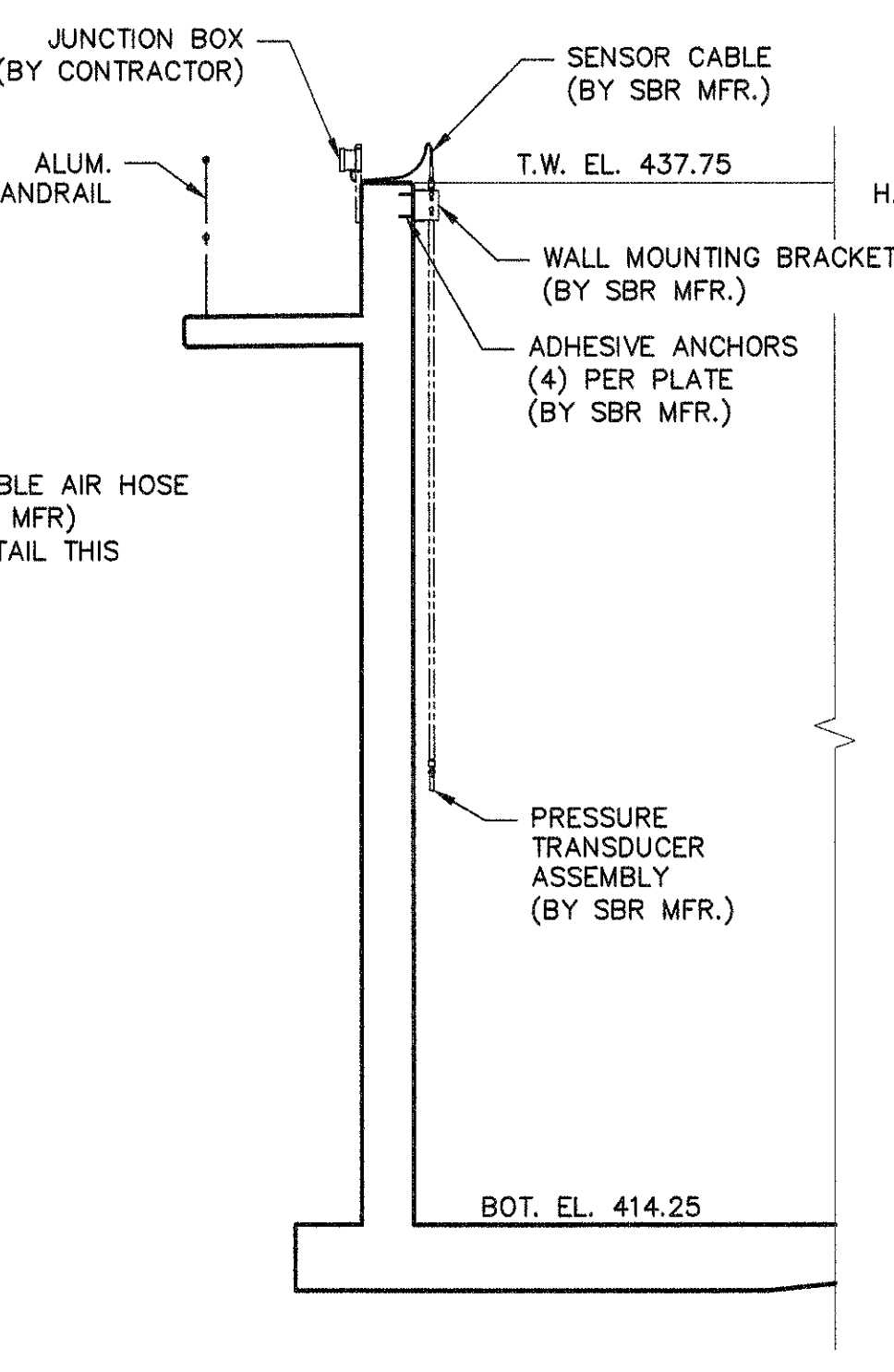
TYPICAL FLEXIBLE AIR HOSE DETAIL
SCALE: 1"=1'-0"



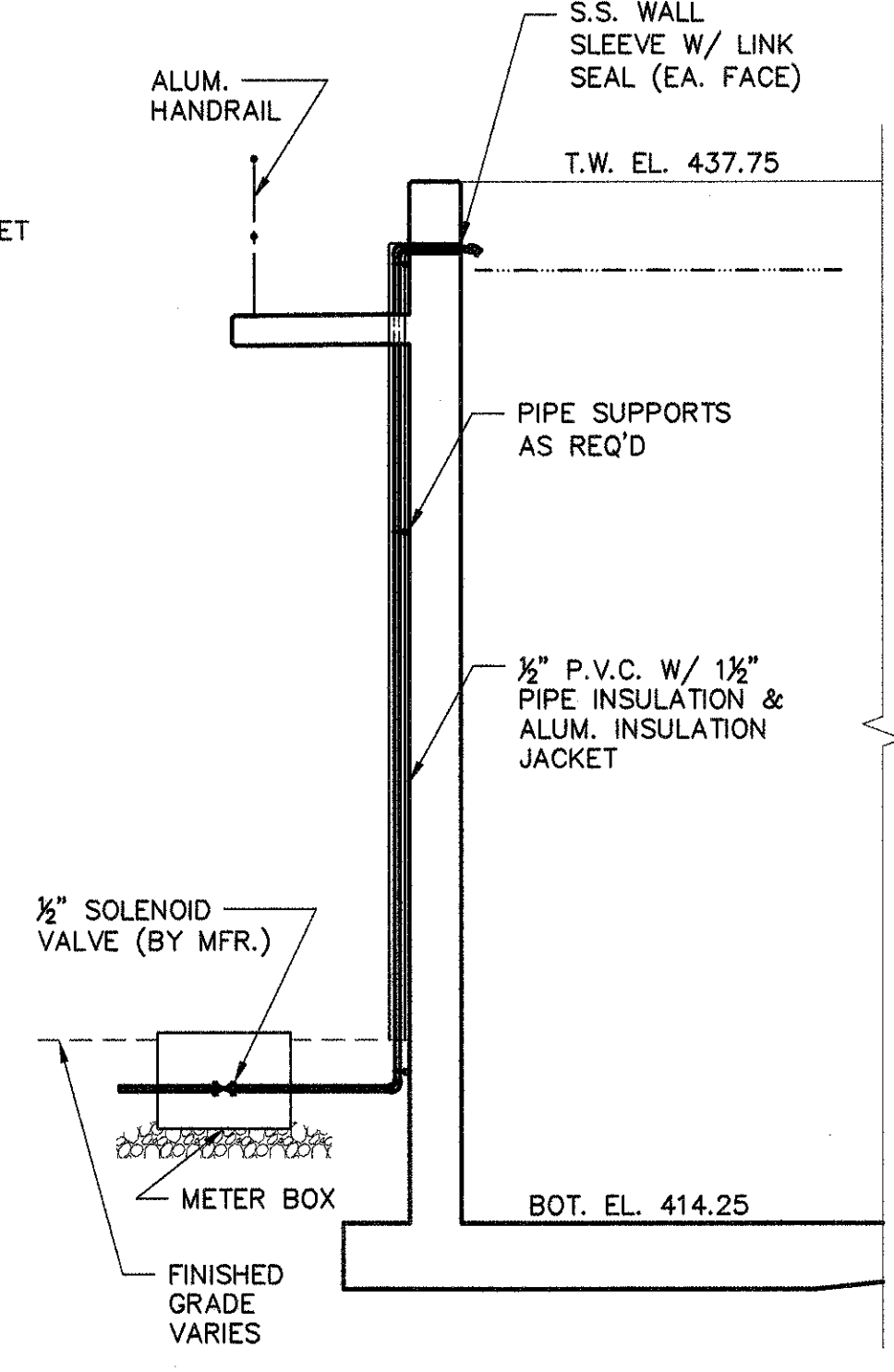
TYPICAL DIFFUSER SECTION
SCALE: 1/4"=1'-0"



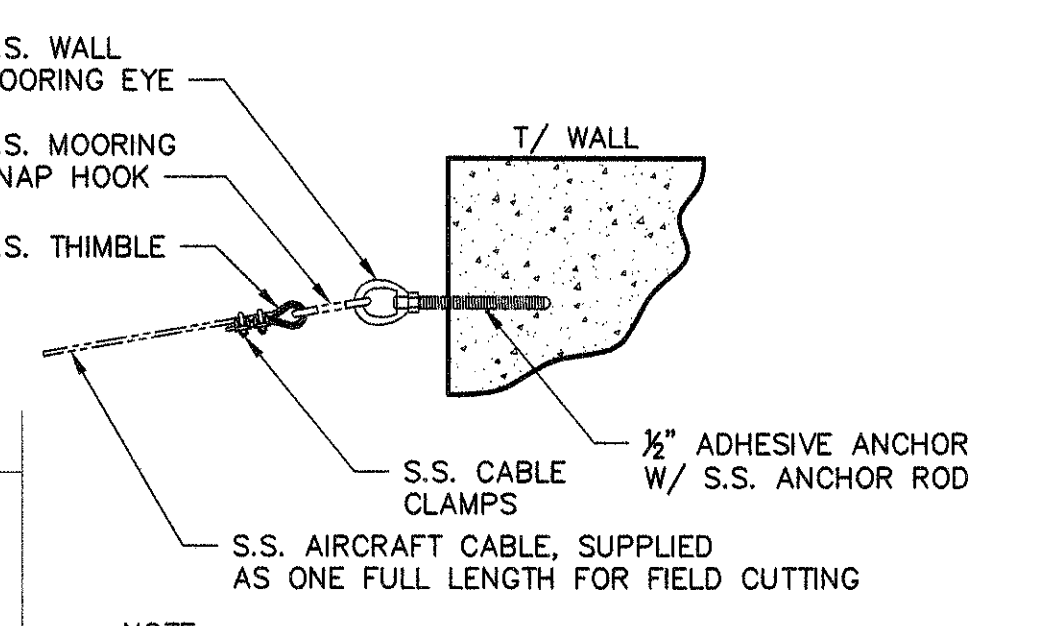
PRESSURE TRANSDUCER DETAIL
SCALE: 1/4"=1'-0"



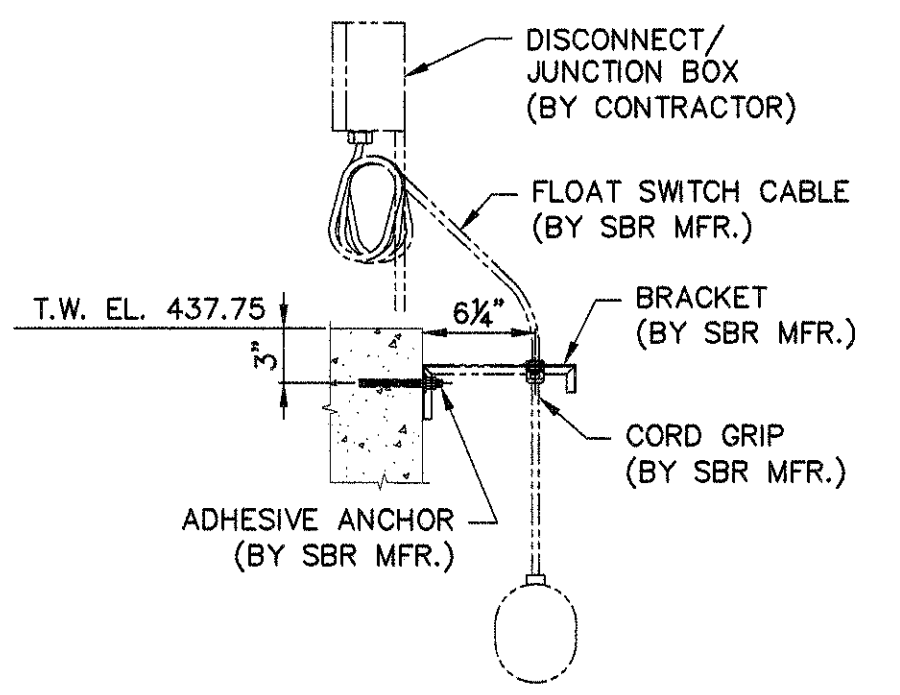
D.O. PROBE DETAIL
SCALE: 1/4"=1'-0"



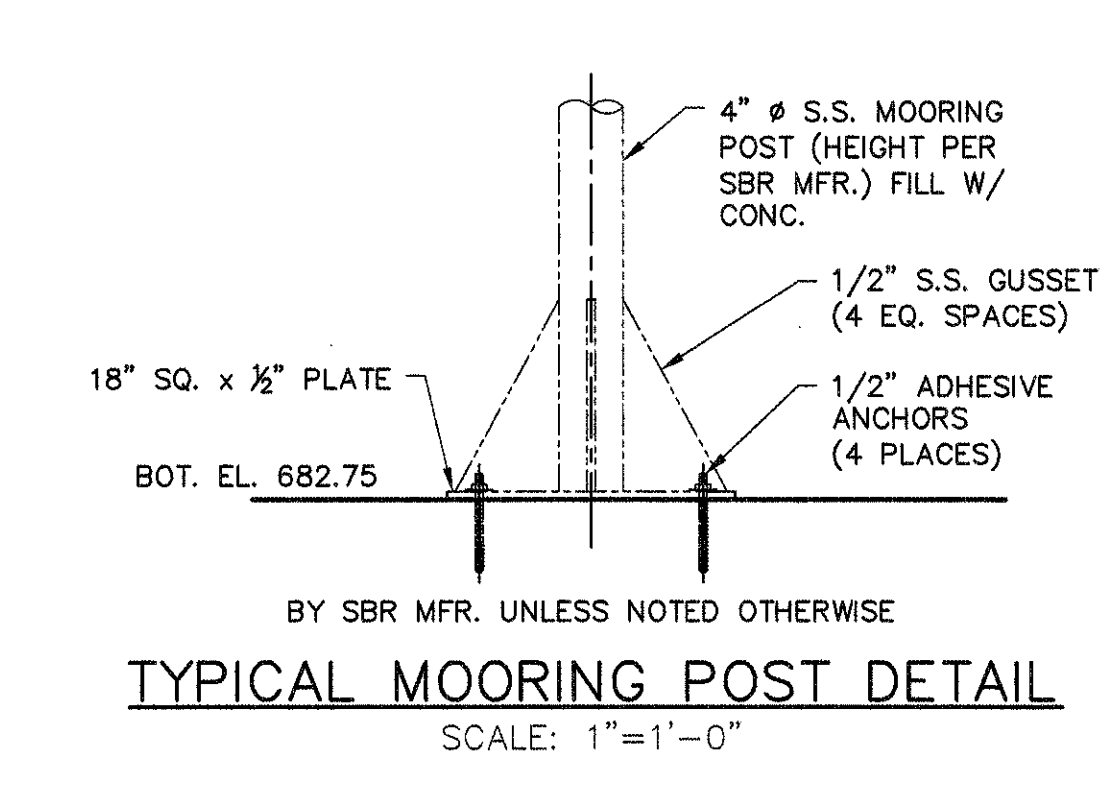
ALUM FEED @ SBR
SCALE: 1/4"=1'-0"



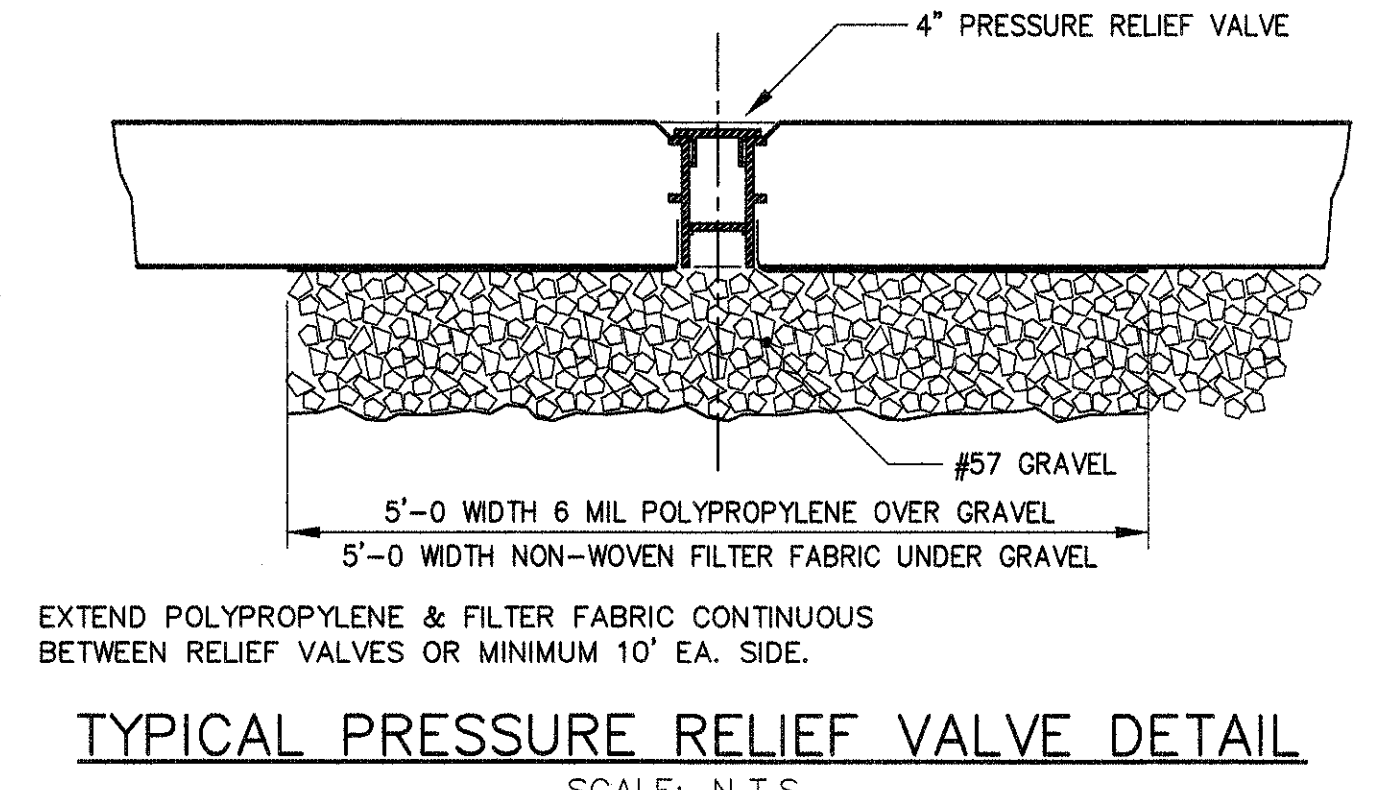
MAINTENANCE CABLE DETAIL
N.T.S.



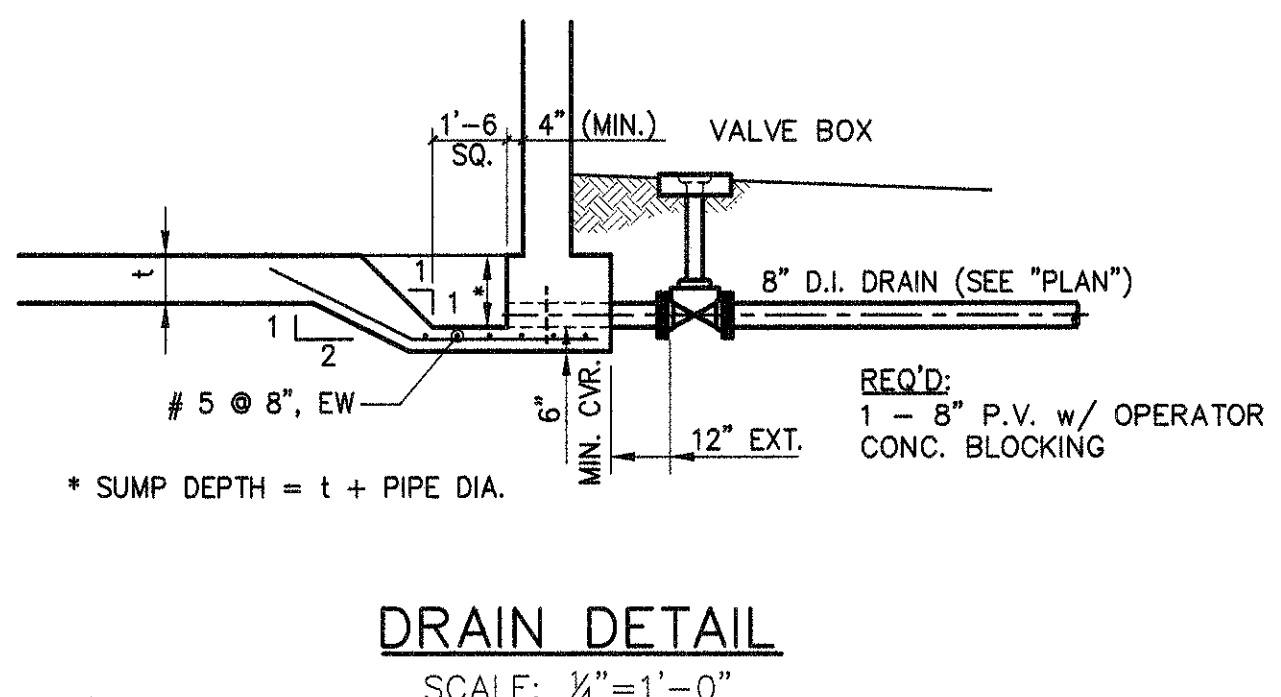
FLOAT SWITCH DETAIL
N.T.S.



TYPICAL MOORING POST DETAIL
SCALE: 1"=1'-0"

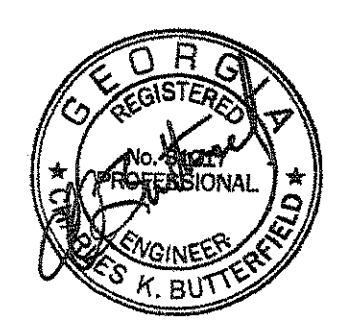


TYPICAL PRESSURE RELIEF VALVE DETAIL
SCALE: N.T.S.



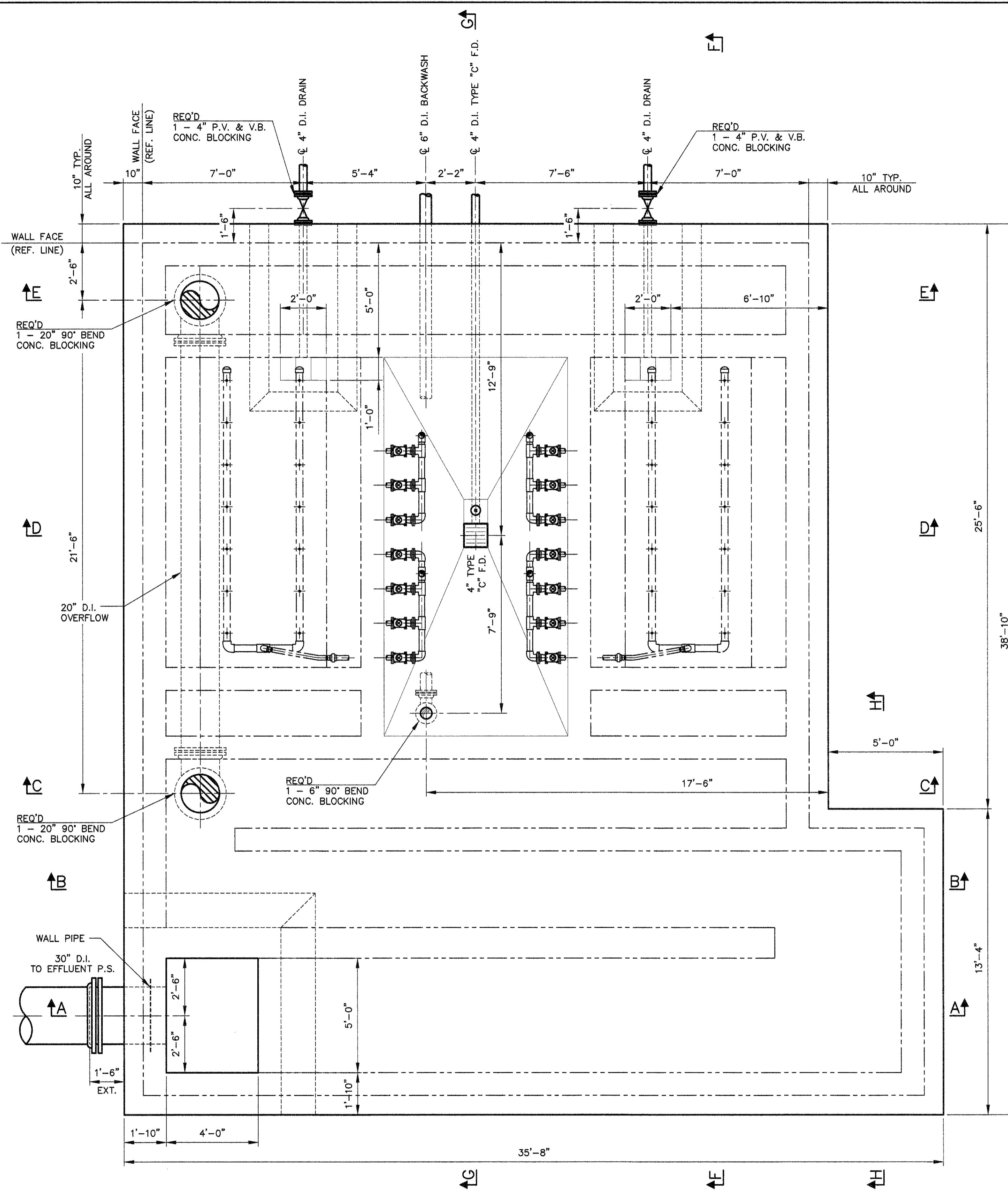
DRAIN DETAIL
SCALE: 1/4"=1'-0"

NOTE: ENCASE ALL UNDERSTRUCTURE PIPING IN 6" MIN. CLASS "C" CONCRETE.

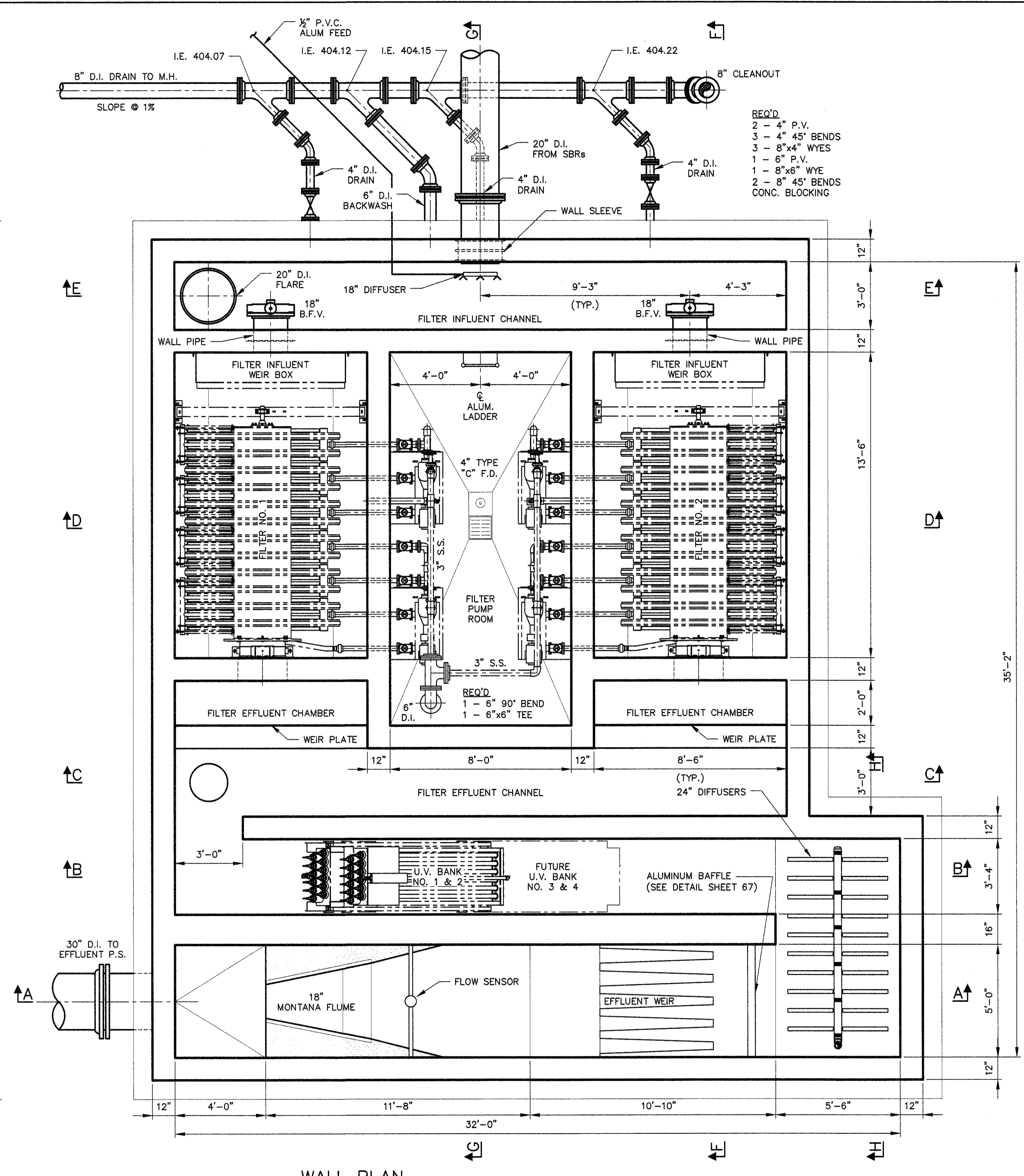


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SBR SECTIONS & DETAILS	
DRAWN	CHECKED	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i> ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
GKA	CKB		
SCALE: AS SHOWN		DATE: JANUARY 2017	
SHEET		22 OF 77	

SSERNERMAN



FOUNDATION/BOTTOM PLAN
SCALE: 3/8" = 1'-0"



WALL PLAN
SCALE: 3/8" = 1'-0"

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		<p>FILTER, U.V., & FLUME STRUCTURE PLANS</p>	
DRAWN CHECKED			
GKA	CKB	SCALE: AS SHOWN DATE: JANUARY 2017	
G. BEN TURNIPSEED ENGINEERS Environmental, Civil, Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 23 OF 77	

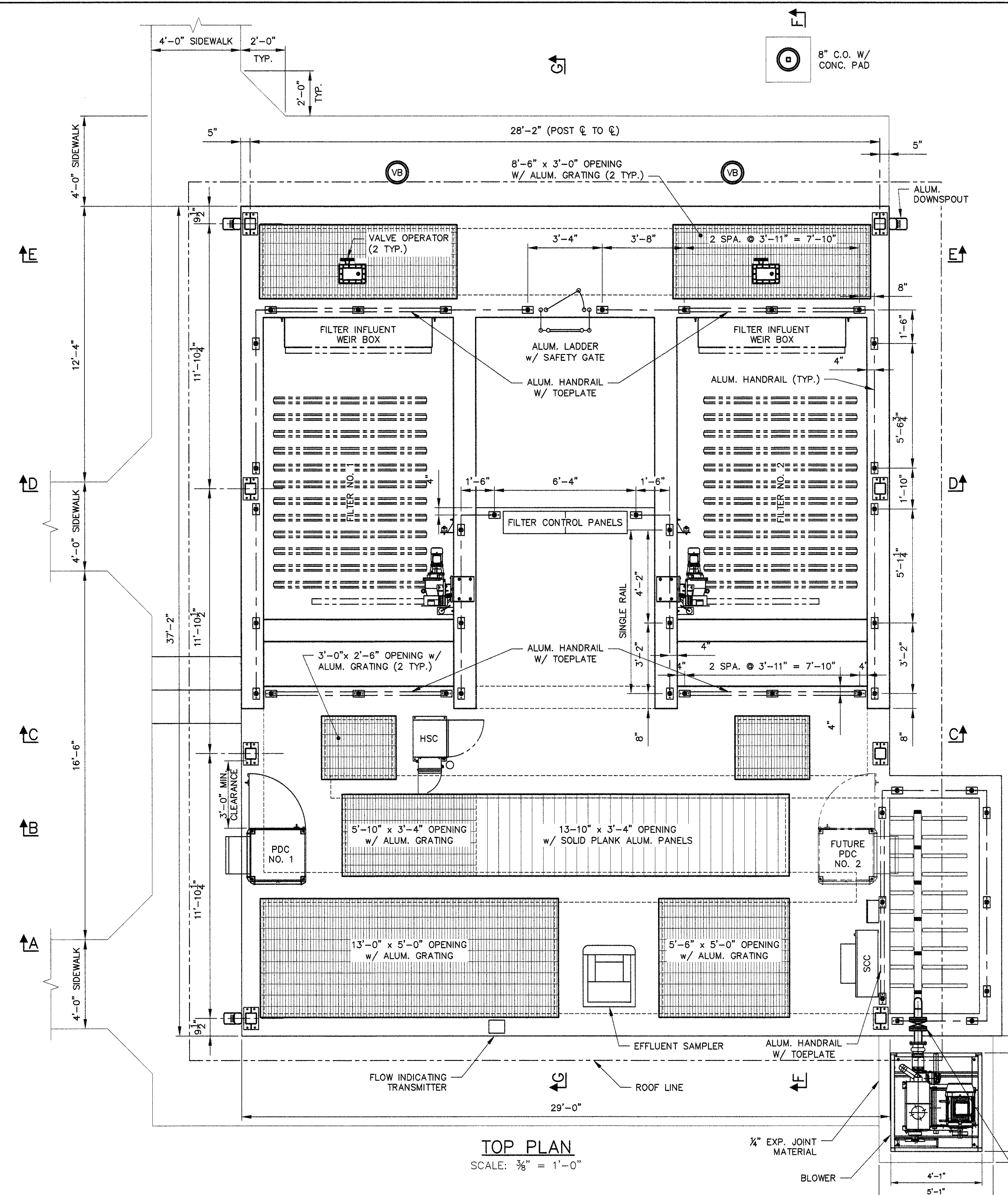


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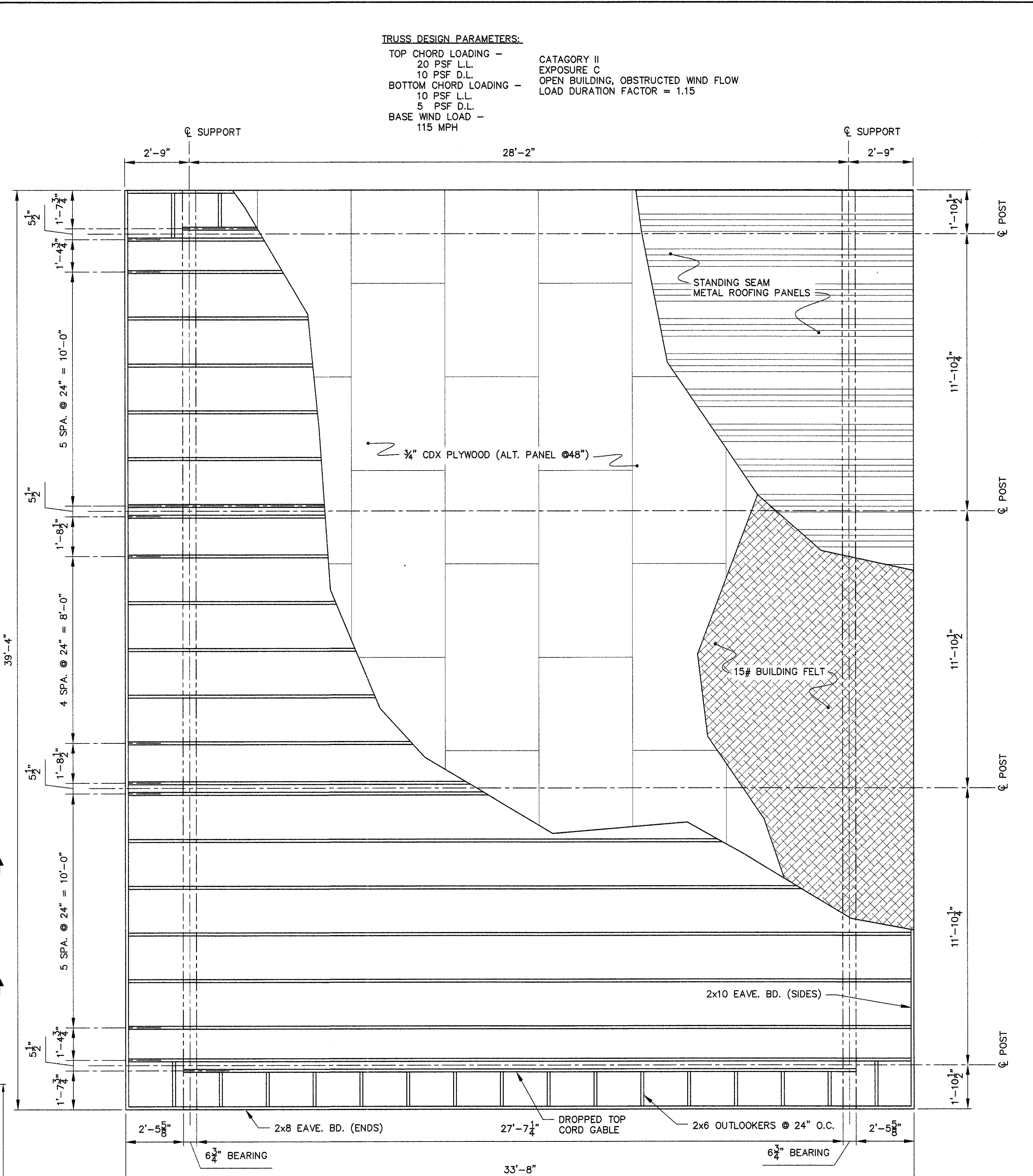
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SENERMAN

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TOP PLAN
SCALE: 3/8" = 1'-0"



ROOF PLAN
SCALE: 3/8" = 1'-0"

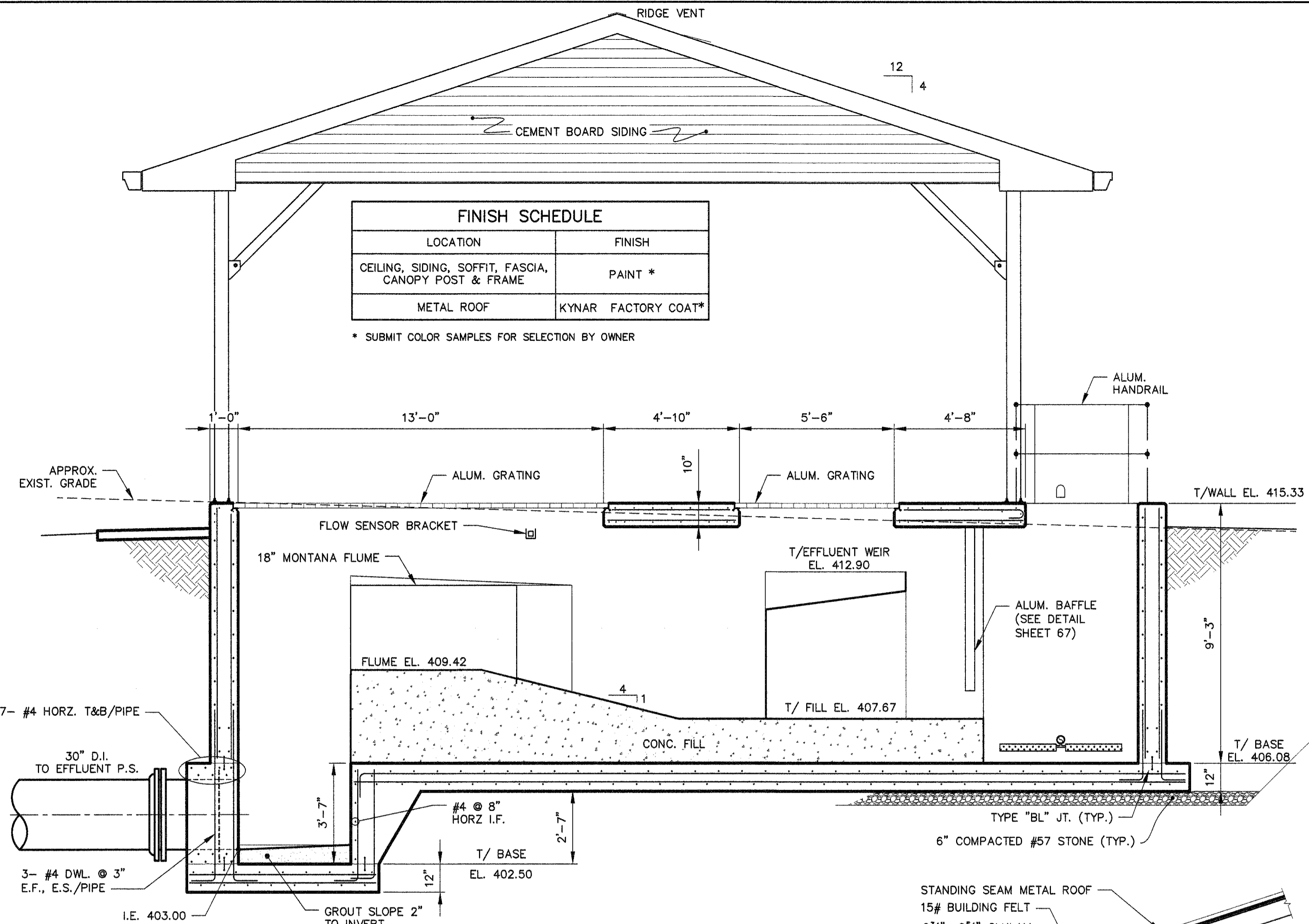
TRUSS DESIGN PARAMETERS:
 TOP CHORD LOADING - 20 PSF L.L.
 10 PSF D.L.
 BOTTOM CHORD LOADING - 10 PSF L.L.
 5 PSF D.L.
 BASE WIND LOAD - 115 MPH

CATEGORY II
 EXPOSURE C
 OPEN BUILDING, OBSTRUCTED WIND FLOW
 LOAD DURATION FACTOR = 1.15



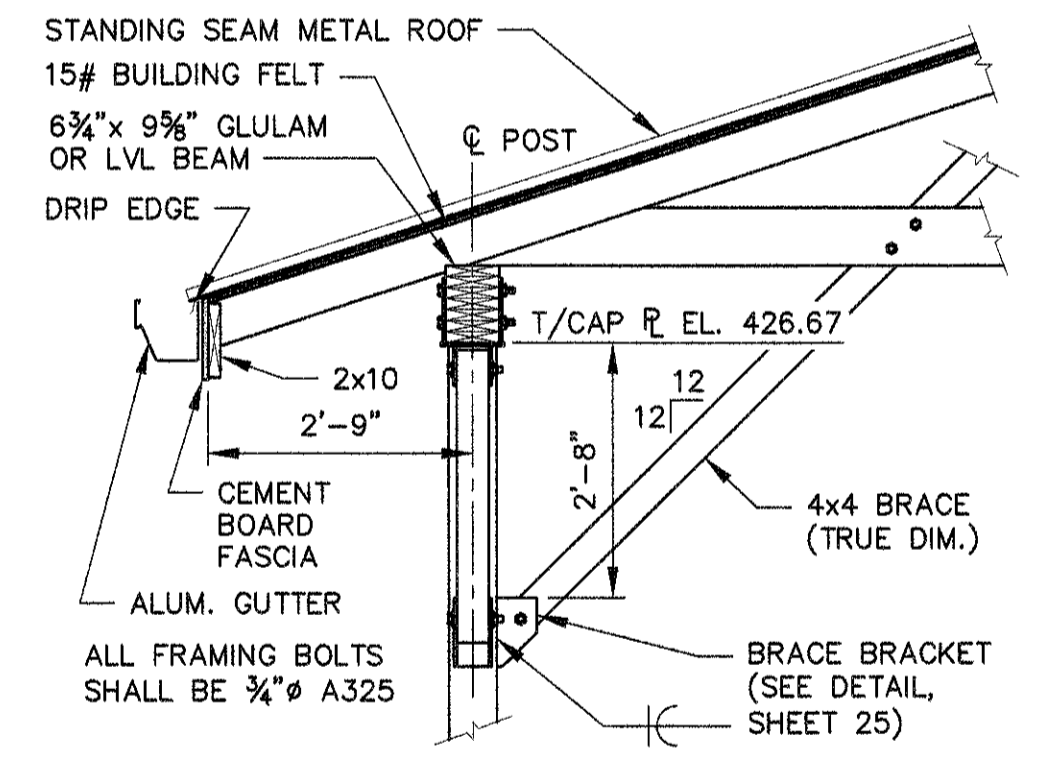
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		FILTER, U.V., & FLUME STRUCTURE PLANS	
DRAWN	CHECKED		
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 24 OF 77	

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SSENERMAN

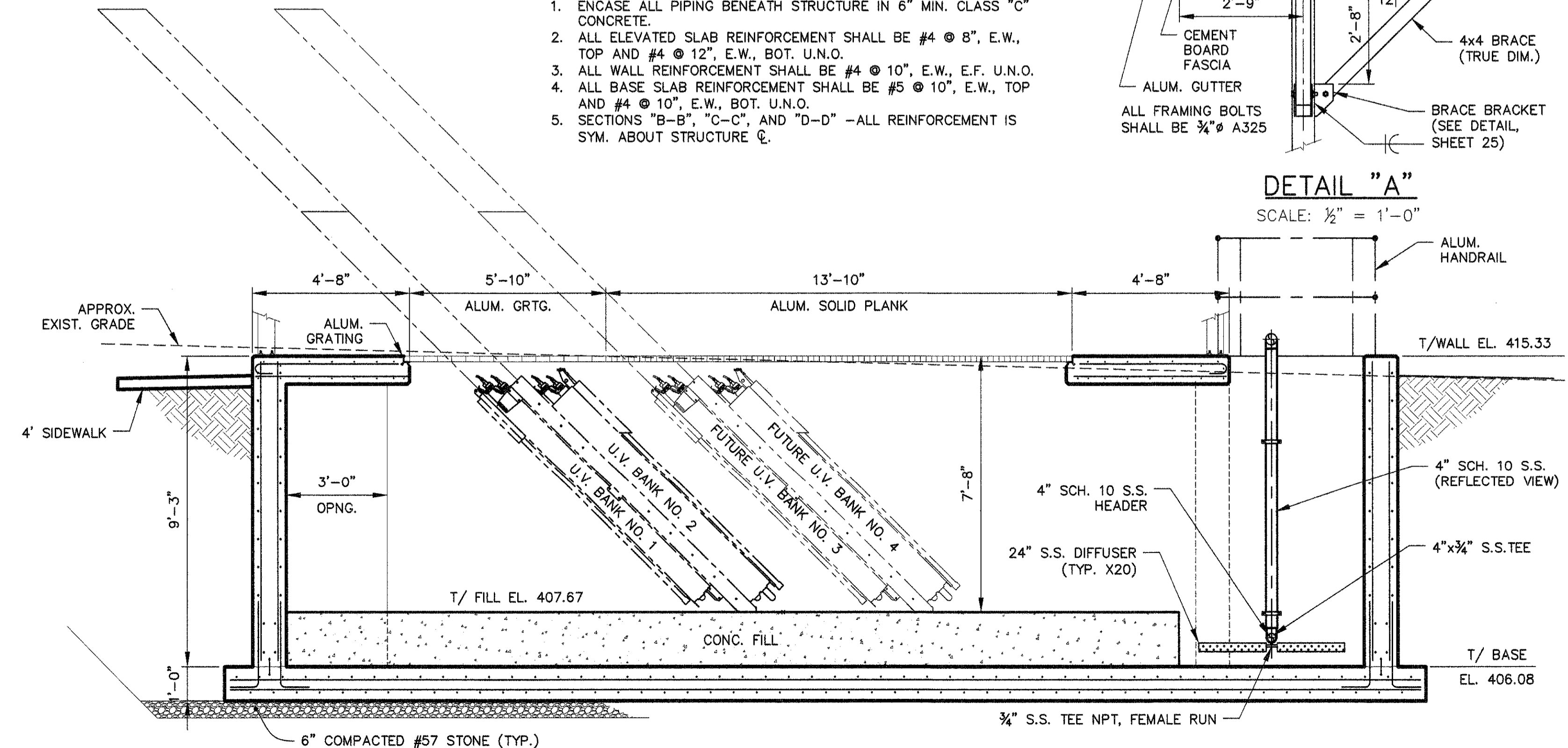


SECTION A-A
SCALE: 3/8" = 1'-0"

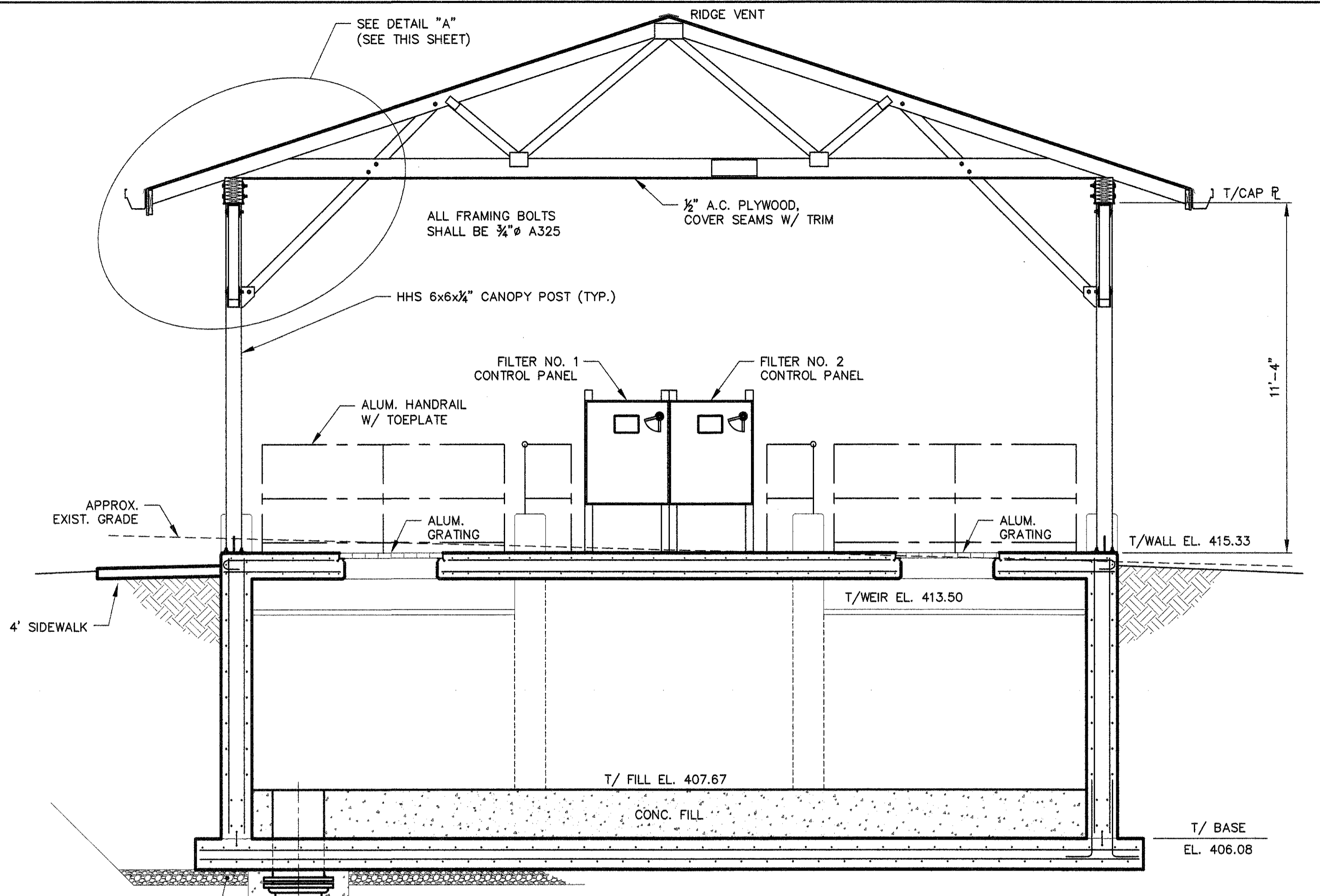
- NOTES:
1. ENCASE ALL PIPING BENEATH STRUCTURE IN 6" MIN. CLASS "C" CONCRETE.
 2. ALL ELEVATED SLAB REINFORCEMENT SHALL BE #4 @ 8", E.W., TOP AND #4 @ 12", E.W., BOT. U.N.O.
 3. ALL WALL REINFORCEMENT SHALL BE #4 @ 10", E.W., E.F. U.N.O.
 4. ALL BASE SLAB REINFORCEMENT SHALL BE #5 @ 10", E.W., TOP AND #4 @ 10", E.W., BOT. U.N.O.
 5. SECTIONS "B-B", "C-C", AND "D-D" - ALL REINFORCEMENT IS SYM. ABOUT STRUCTURE C.



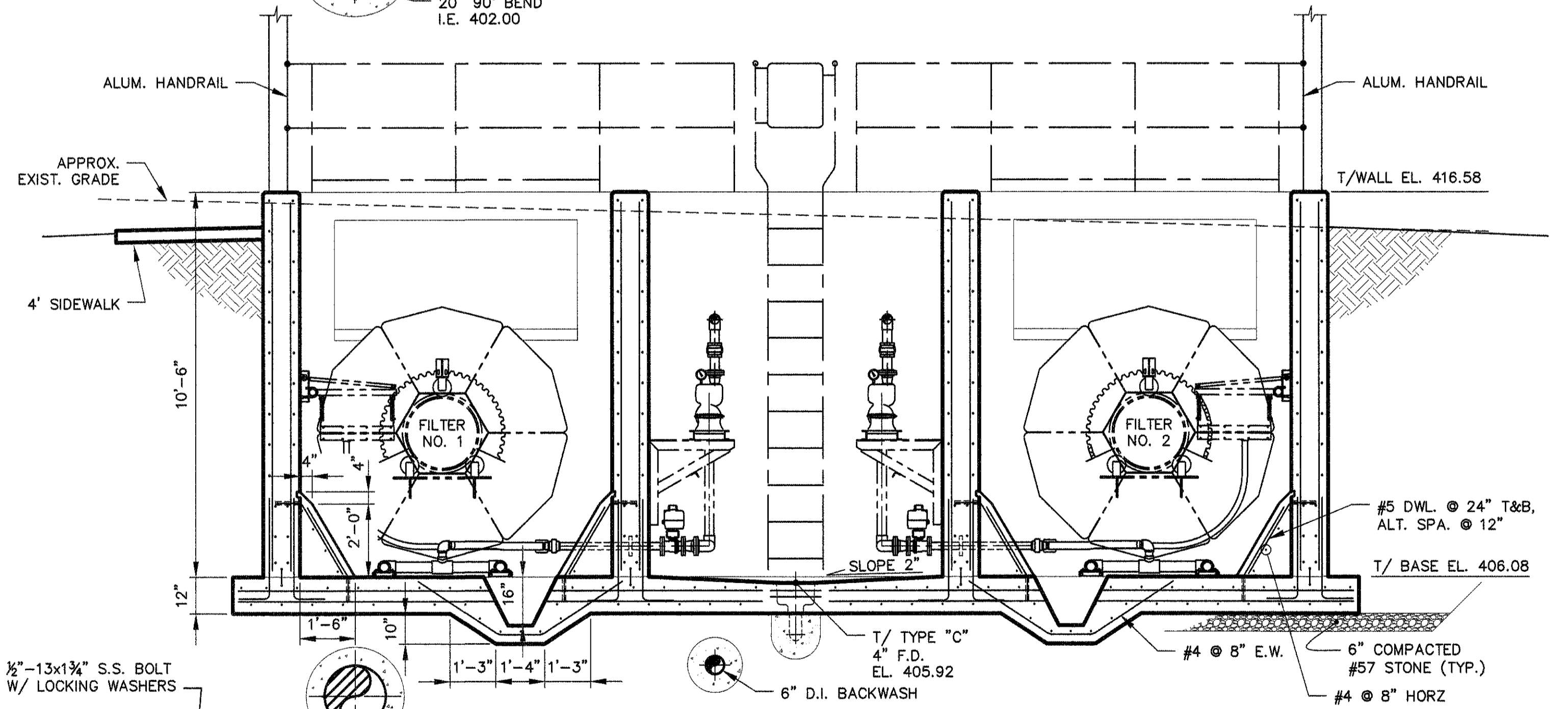
DETAIL "A"
SCALE: 1/2" = 1'-0"



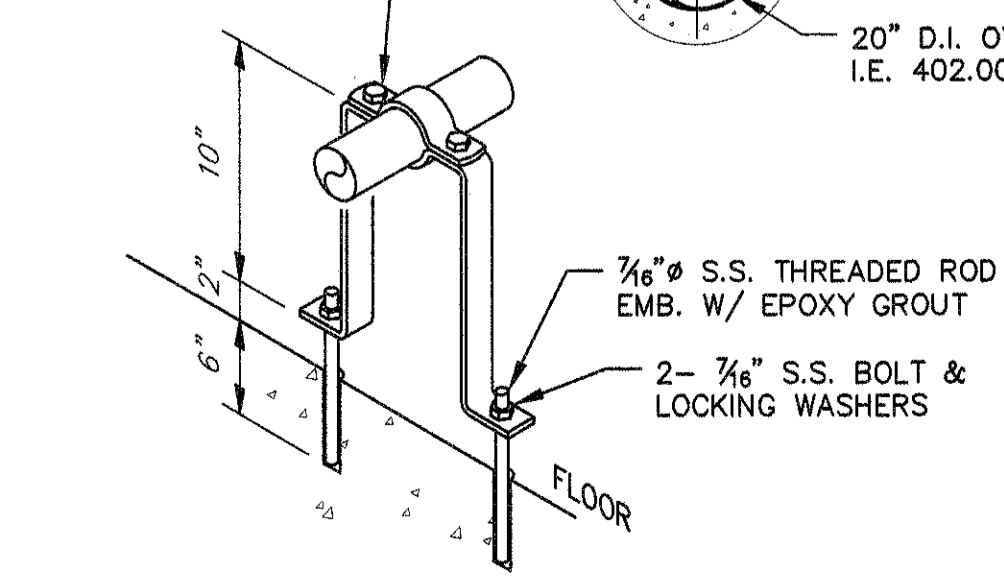
SECTION B-B
SCALE: 3/8" = 1'-0"



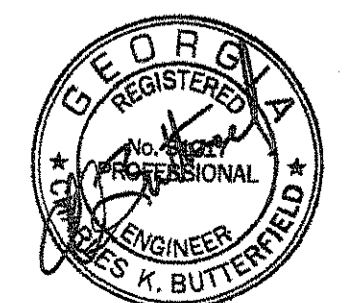
SECTION C-C
SCALE: 3/8" = 1'-0"



SECTION D-D
SCALE: 3/8" = 1'-0"

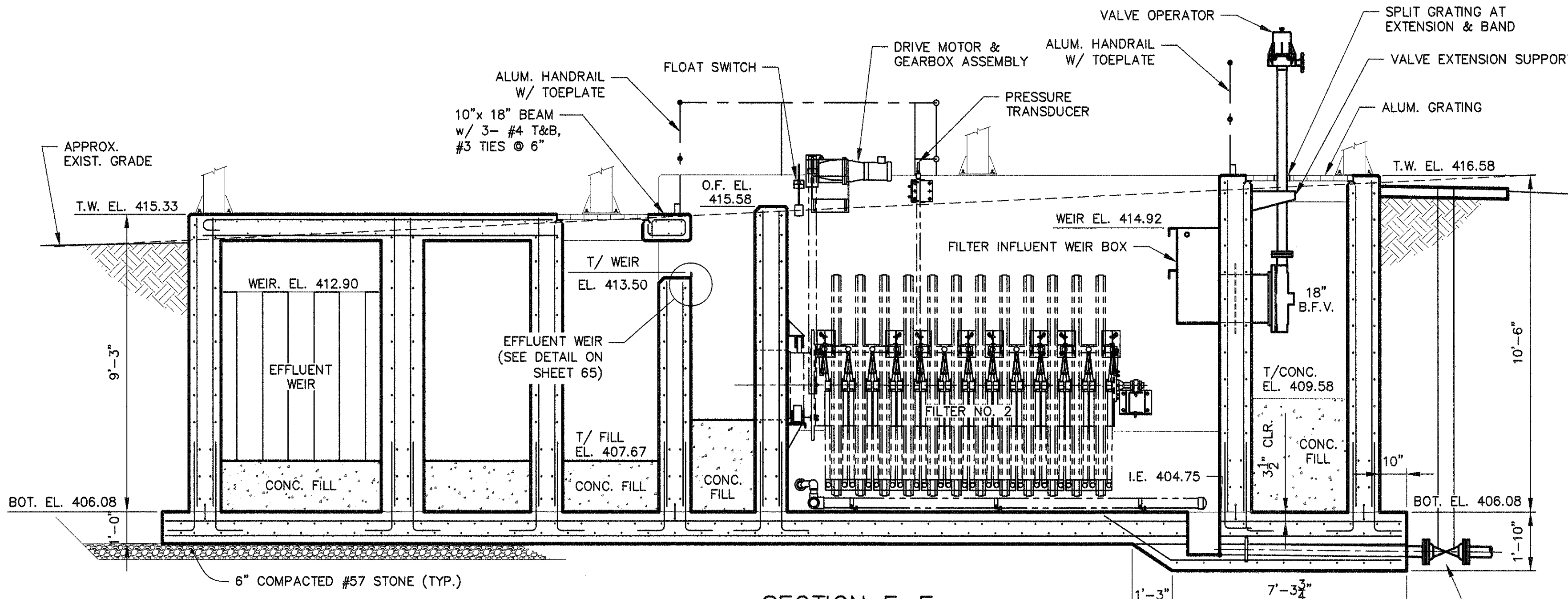


AERATION PIPE SUPPORT DETAIL
SCALE: N.T.S.

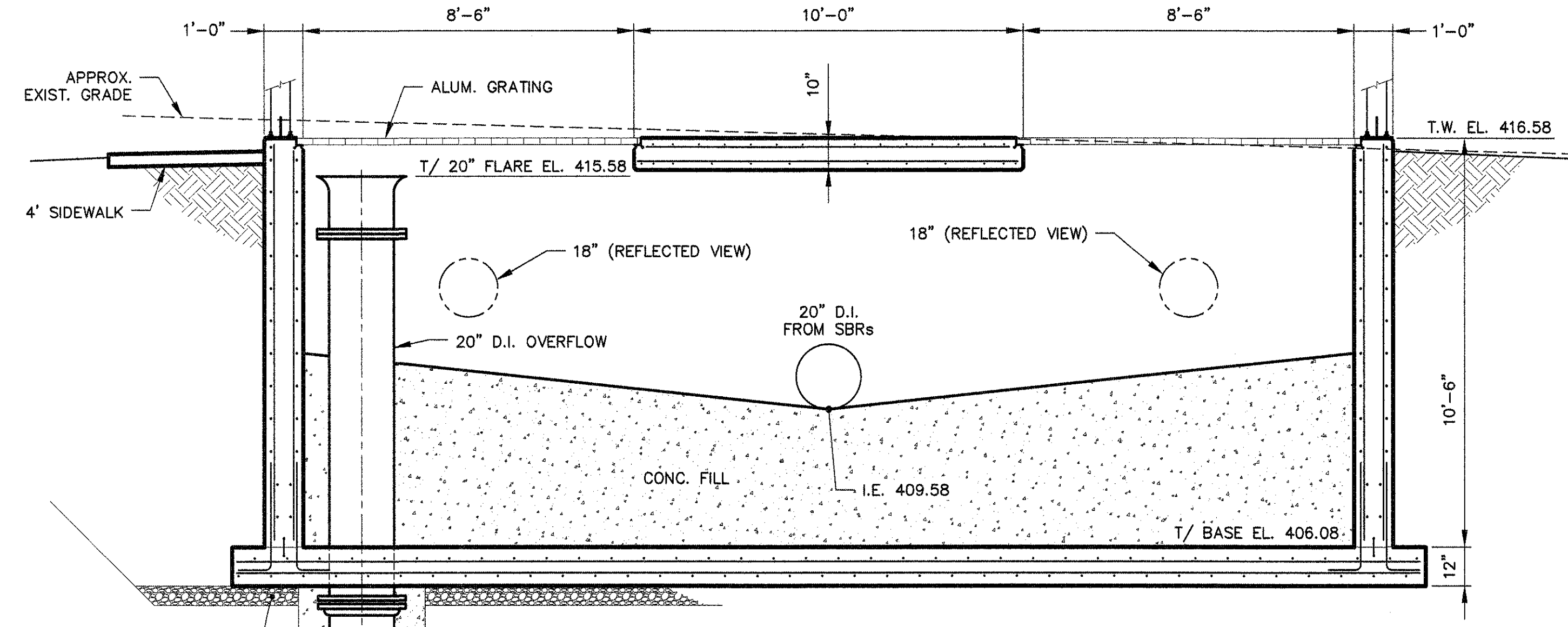


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		<p align="center">FILTER, U.V., & FLUME STRUCTURE SECTIONS</p>	
DRAWN	CHECKED	<p align="center">G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i> ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA</p>	
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
		<p align="right">SHEET 25 OF 77</p>	

SEENERMAN

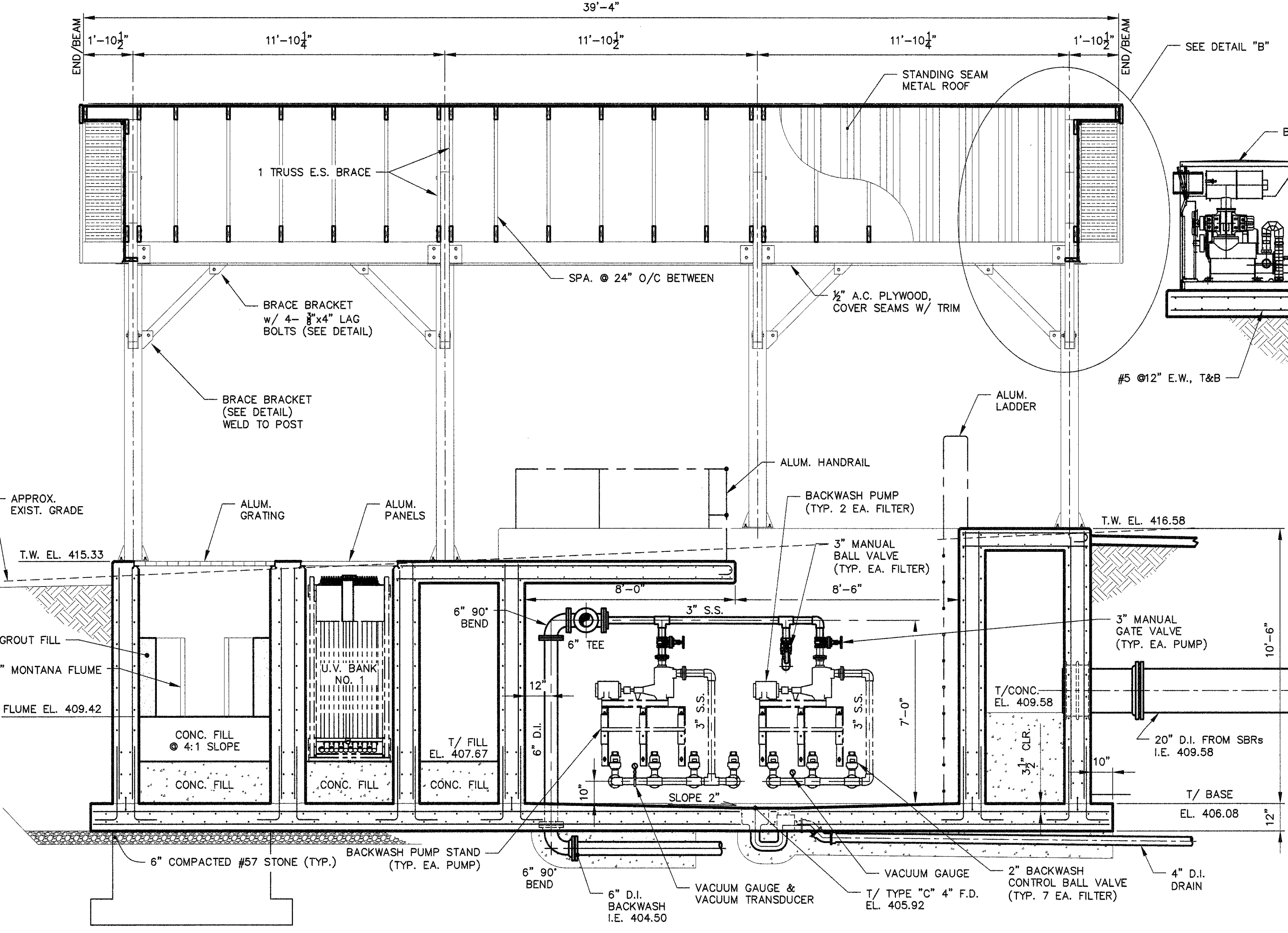


SECTION F-F
SCALE: 3/8" = 1'-0"

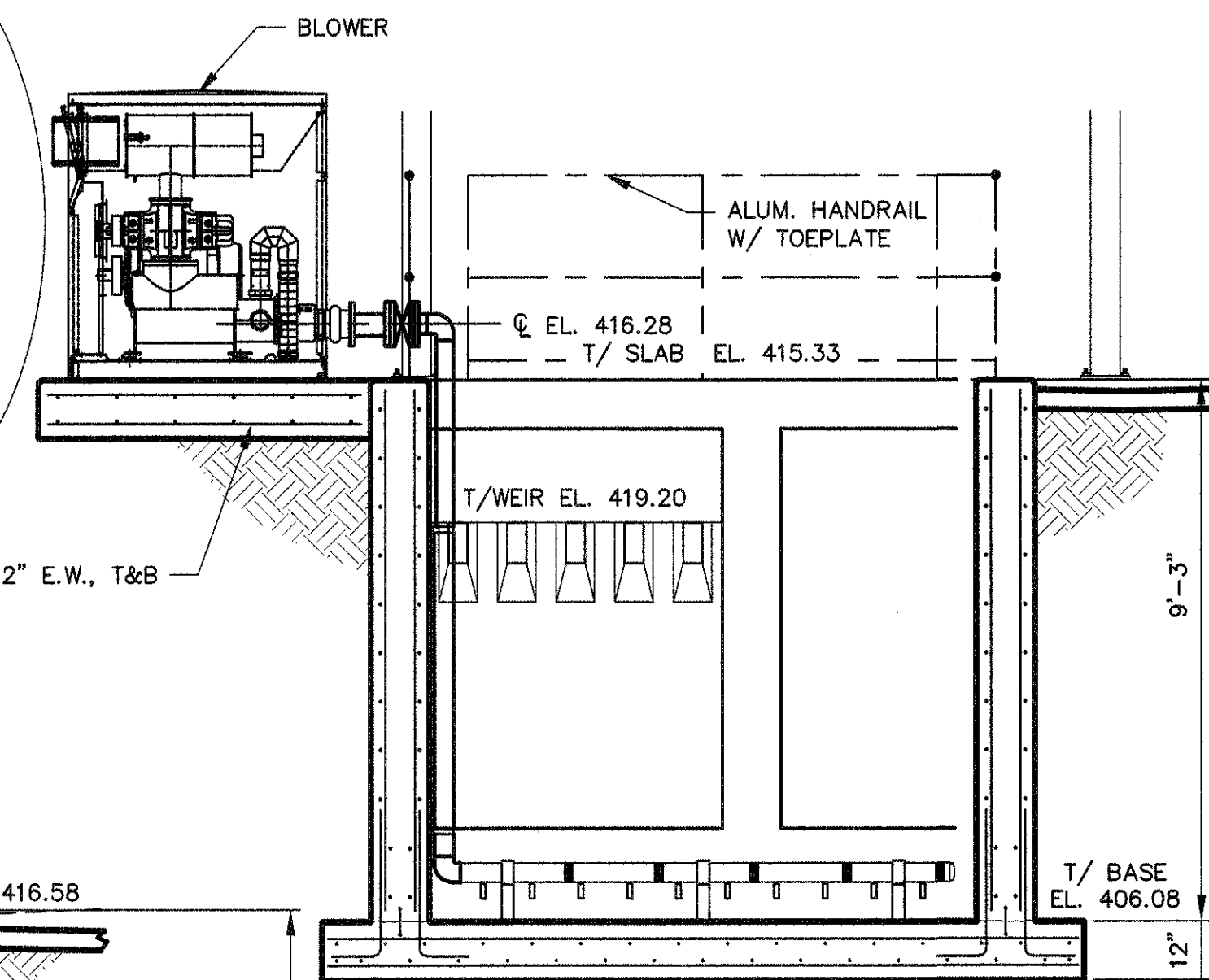


SECTION E-E
SCALE: 3/8" = 1'-0"

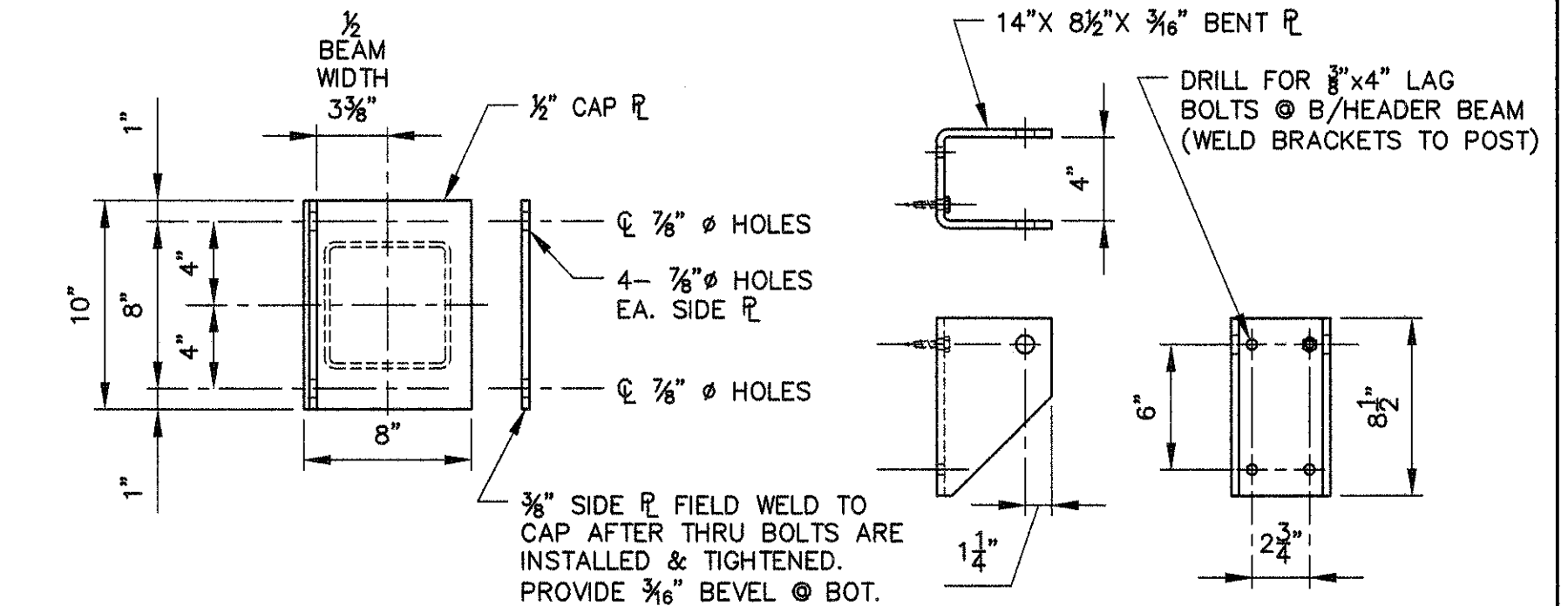
- NOTES:
1. ENCASE ALL PIPING BENEATH STRUCTURE IN 6" MIN. CLASS "C" CONCRETE.
 2. ALL ELEVATED SLAB REINFORCEMENT SHALL BE #4 @ 8", E.W., TOP AND #4 @ 12", E.W., BOT. U.N.O.
 3. ALL WALL REINFORCEMENT SHALL BE #4 @ 10", E.W., E.F. U.N.O.
 4. ALL BASE SLAB REINFORCEMENT SHALL BE #5 @ 10", E.W., TOP AND #4 @ 10", E.W., BOT. U.N.O.
 5. SECTIONS "B-B", "C-C", AND "D-D" - ALL REINFORCEMENT IS SYM. ABOUT STRUCTURE Q.



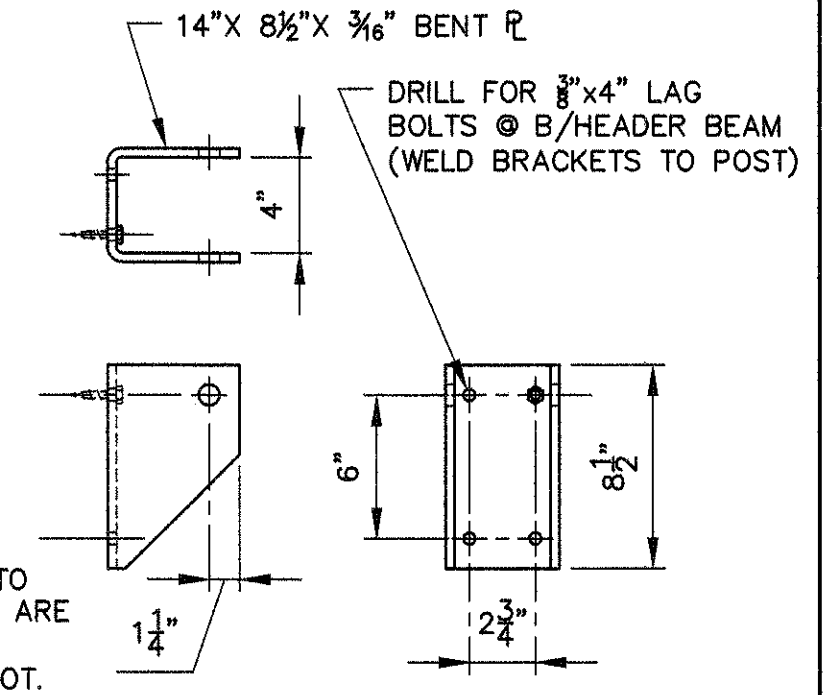
SECTION G-G
SCALE: 3/8" = 1'-0"



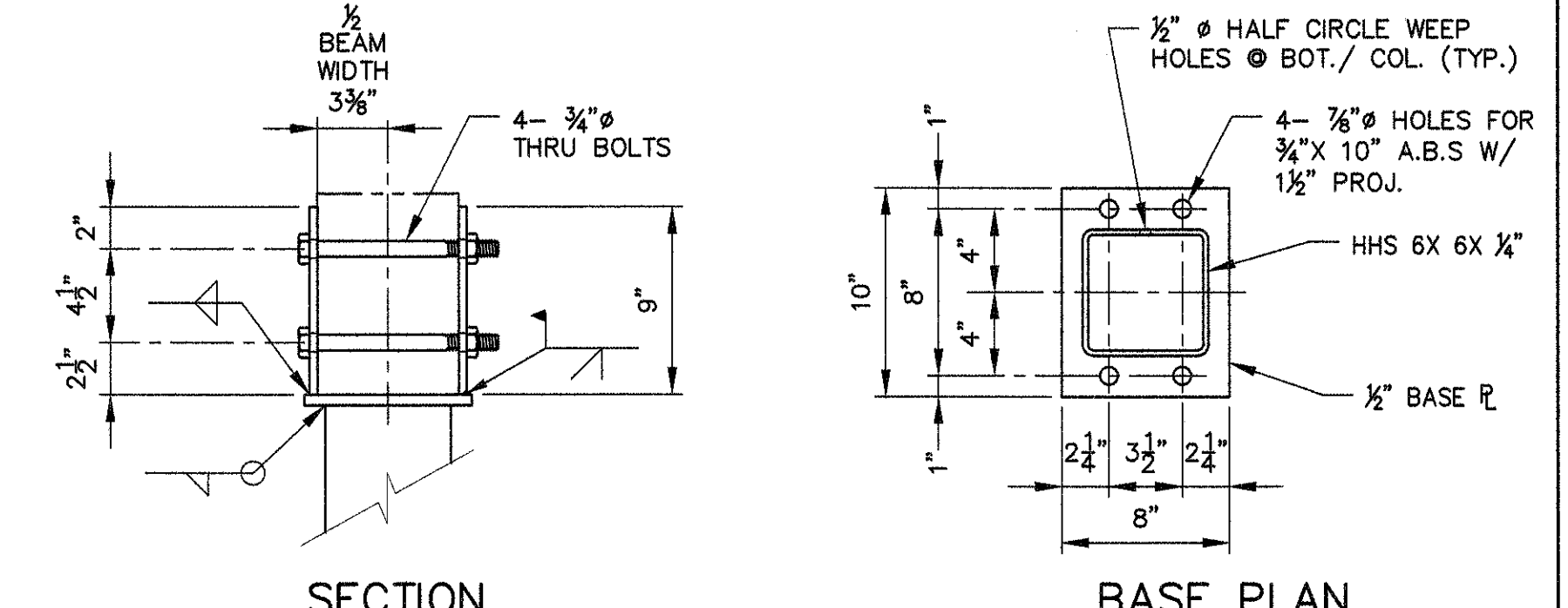
SECTION H-H
SCALE: 3/8" = 1'-0"



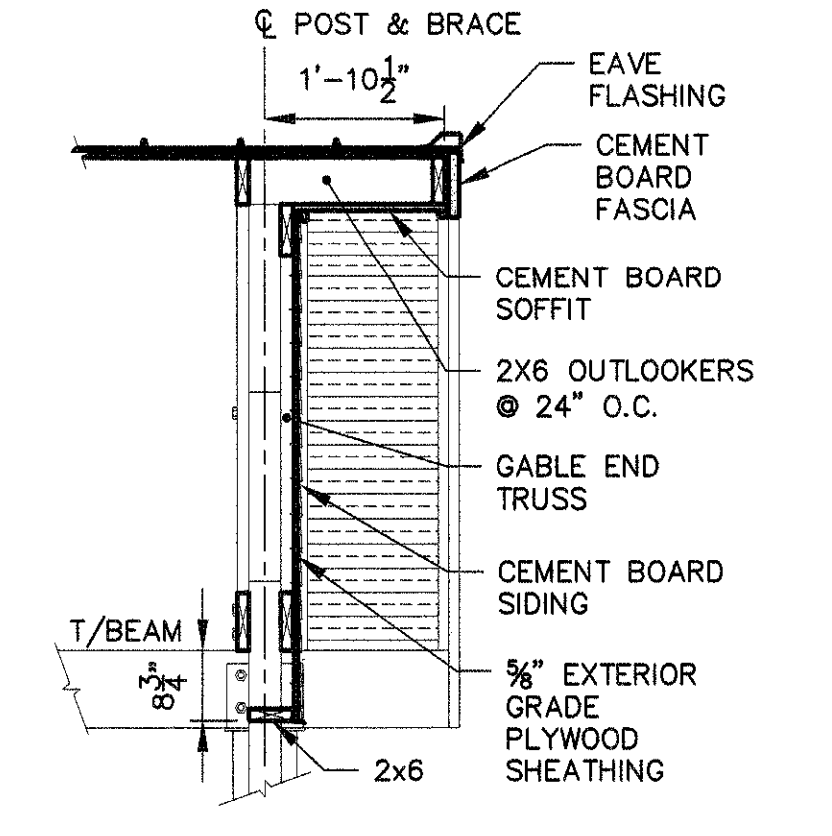
CAP PLAN



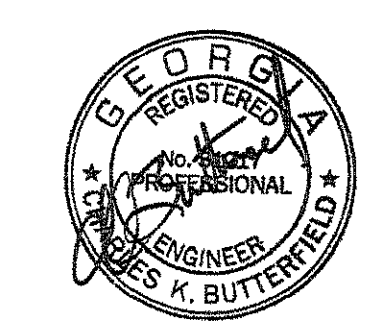
BRACE BRACKET



SECTION CANOPY POST DETAILS
SCALE: 1/2" = 1'-0"



DETAIL "B"
SCALE: 1/2" = 1'-0"

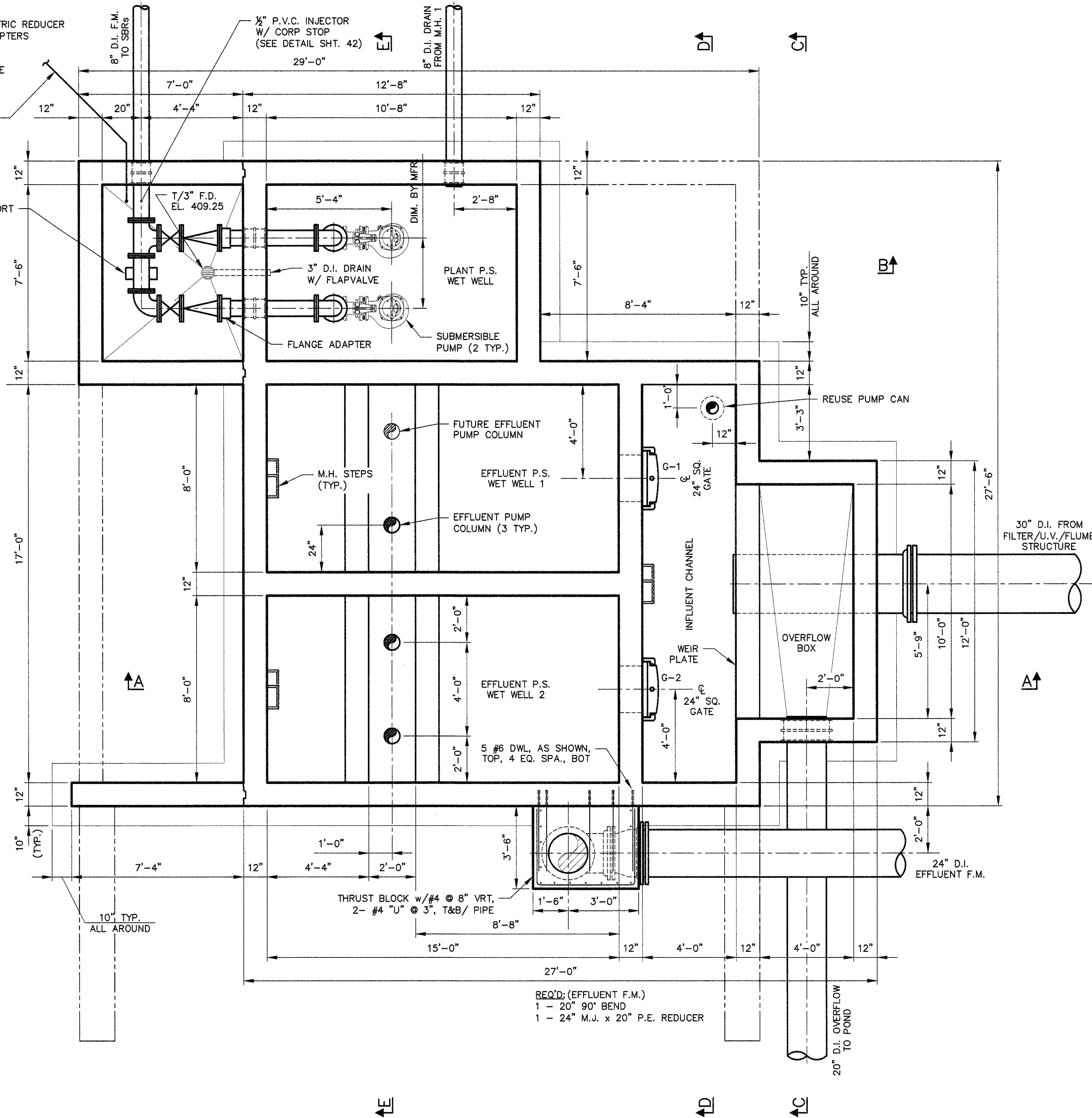


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		FILTER, U.V., & FLUME STRUCTURE SECTIONS	
DRAWN	CHECKED	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
GKA	CKB		
SCALE: AS SHOWN		DATE: JANUARY 2017	
		SHEET 26 OF 77	

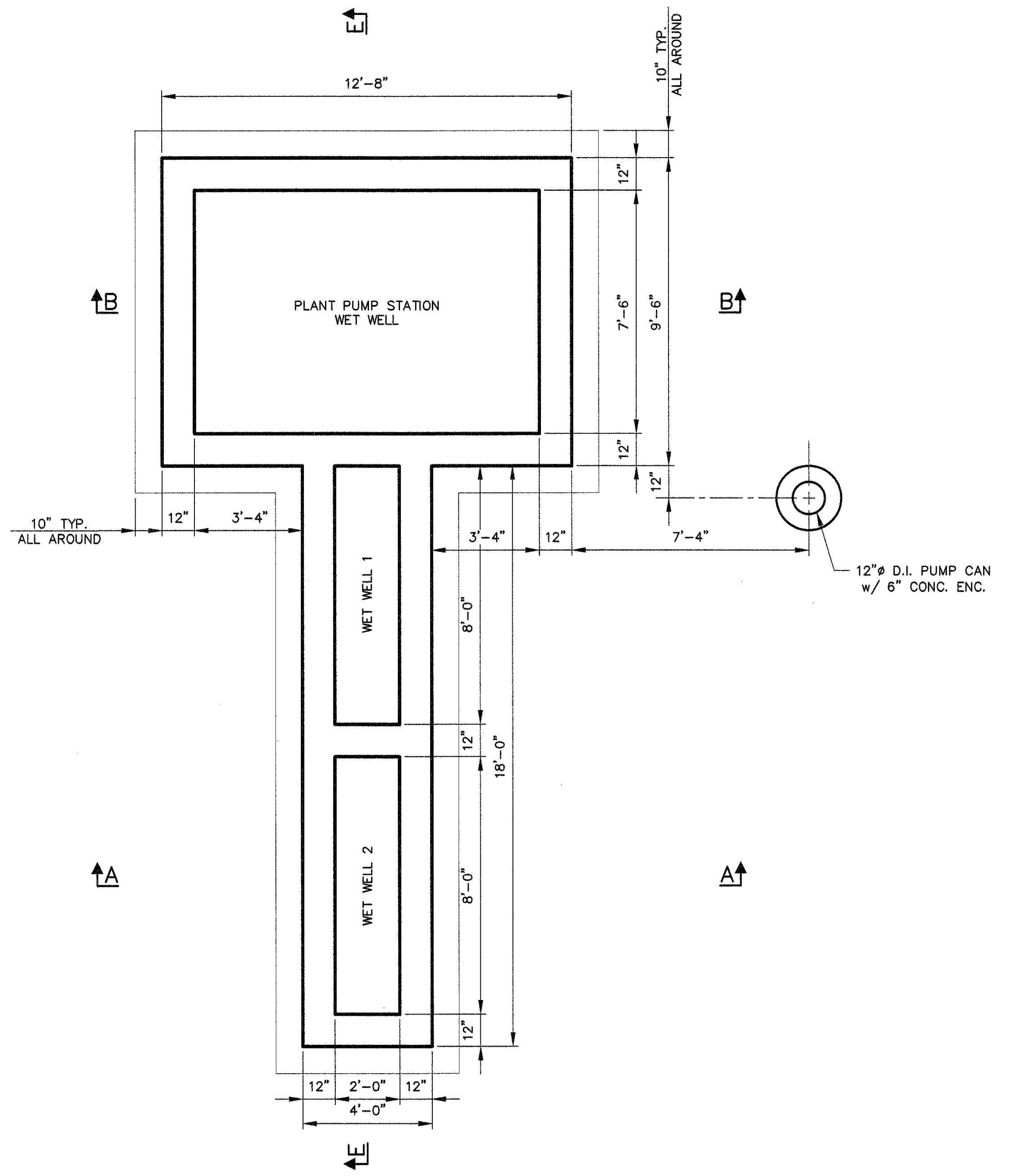
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SENERMAN

- REQ'D: (PLANT P.S.)
 2 - 8" x 6" ECCENTRIC REDUCER
 2 - 8" FLANGE ADAPTERS
 3 - 8" 90° BEND
 1 - 8" TEE
 2 - 8" CHECK VALVE
 2 - 8" PLUG VALVE



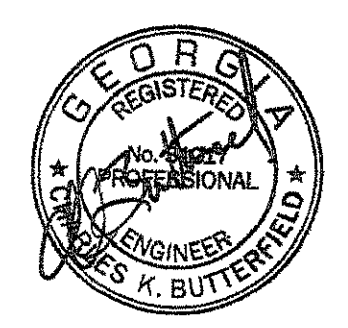
WALL PLAN
 SCALE: 3/8" = 1'-0"



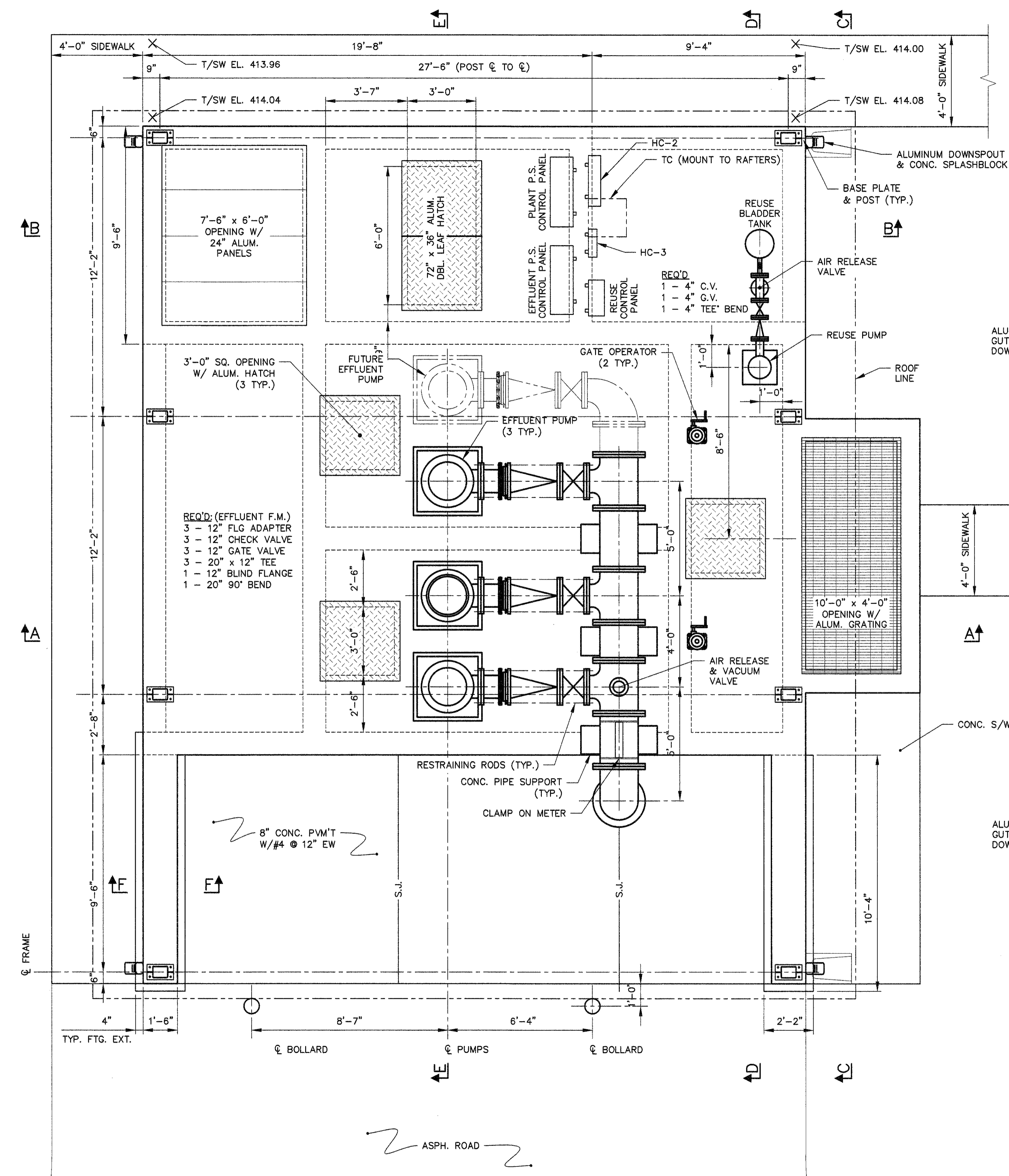
BOTTOM PLAN
 SCALE: 3/8" = 1'-0"

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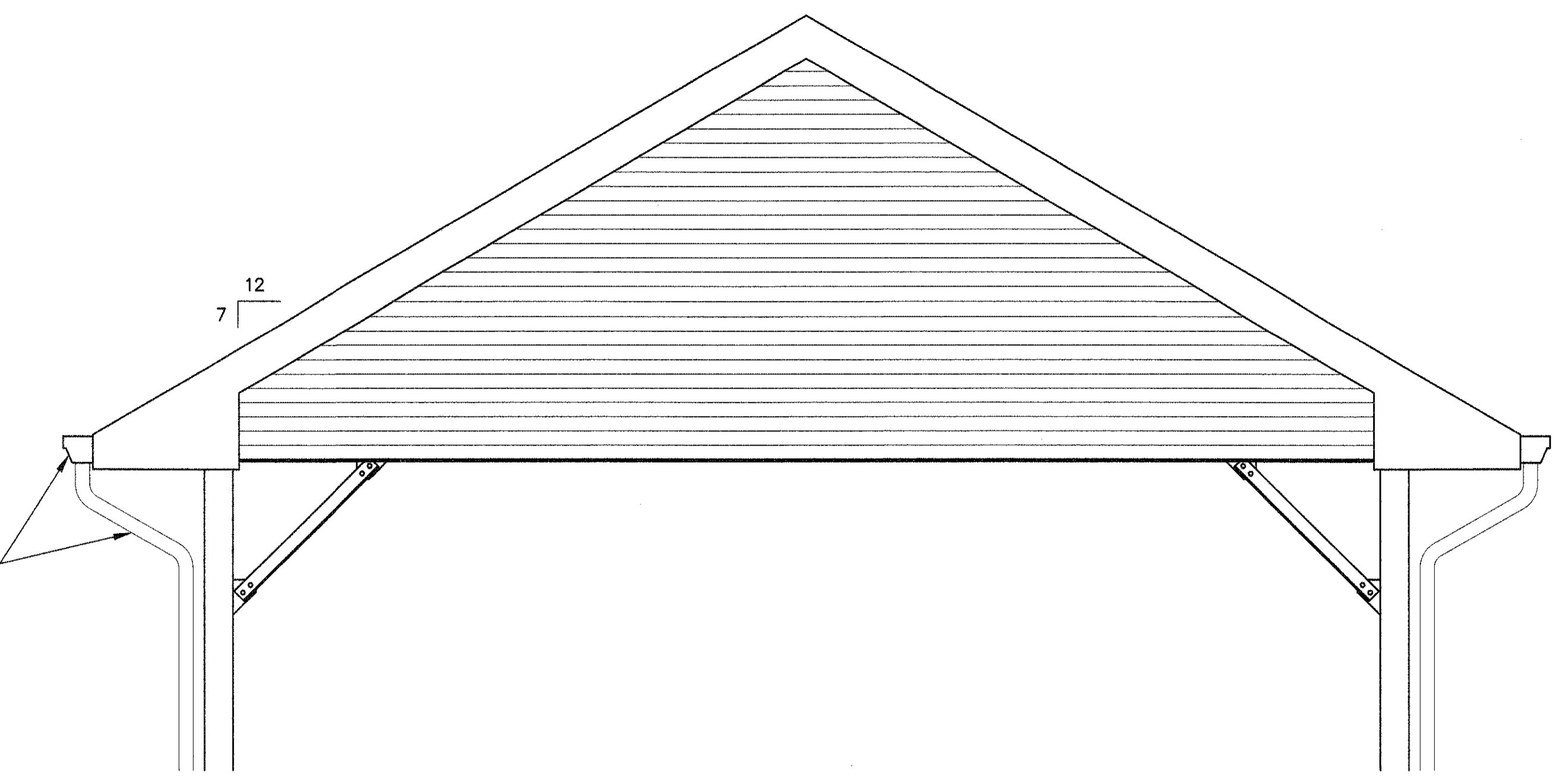
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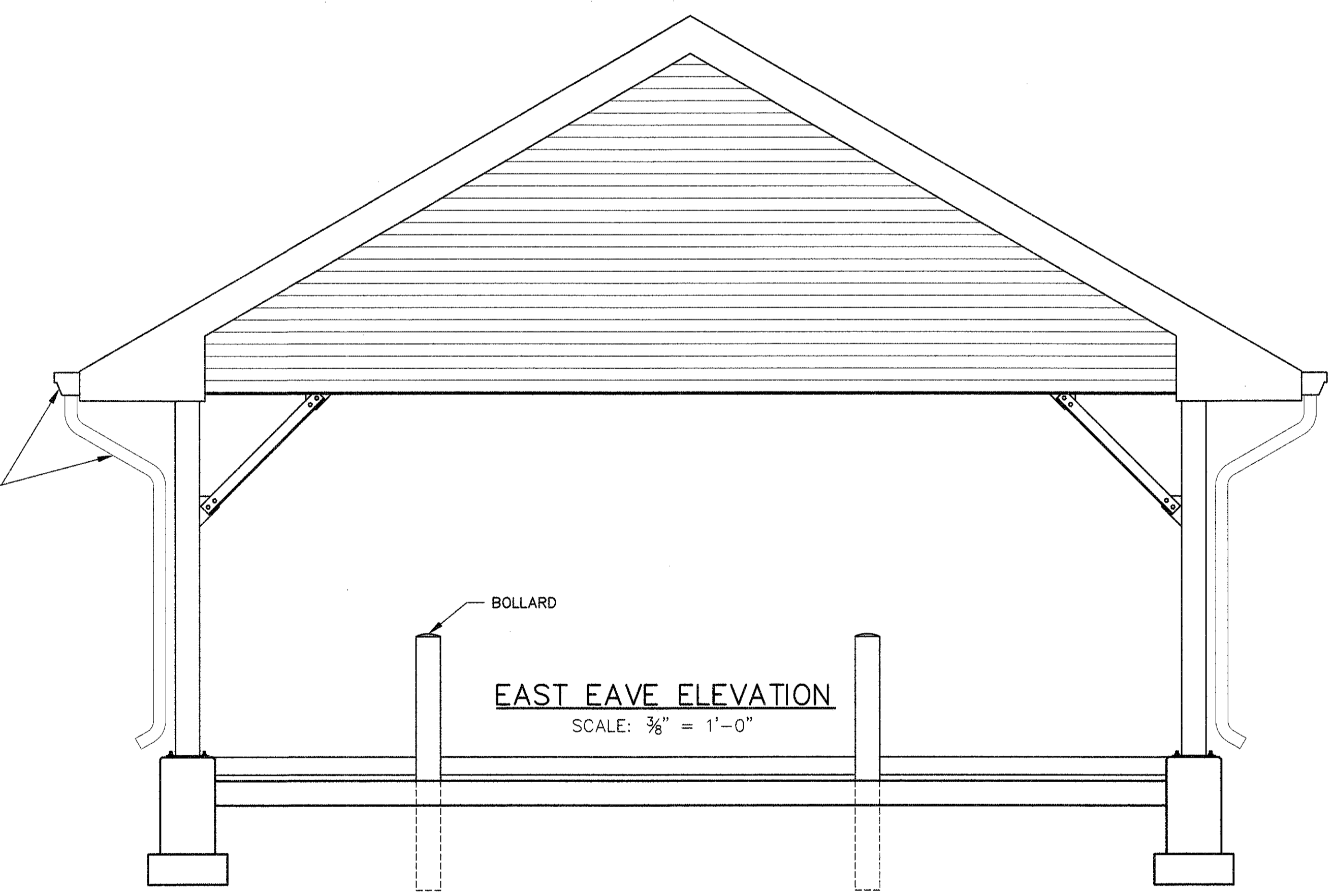
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
05/2017		PLANT & EFFLUENT PUMP STATION PLANS	
DRAWN	CHECKED		
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental, Civil, Hydraulic			SHEET
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			27 OF 77



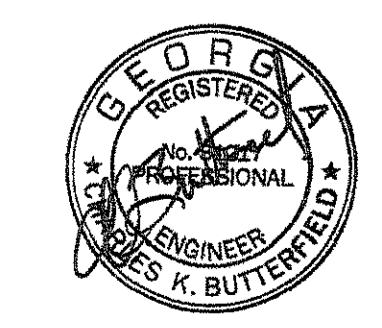
TOP PLAN
SCALE: 3/8" = 1'-0"



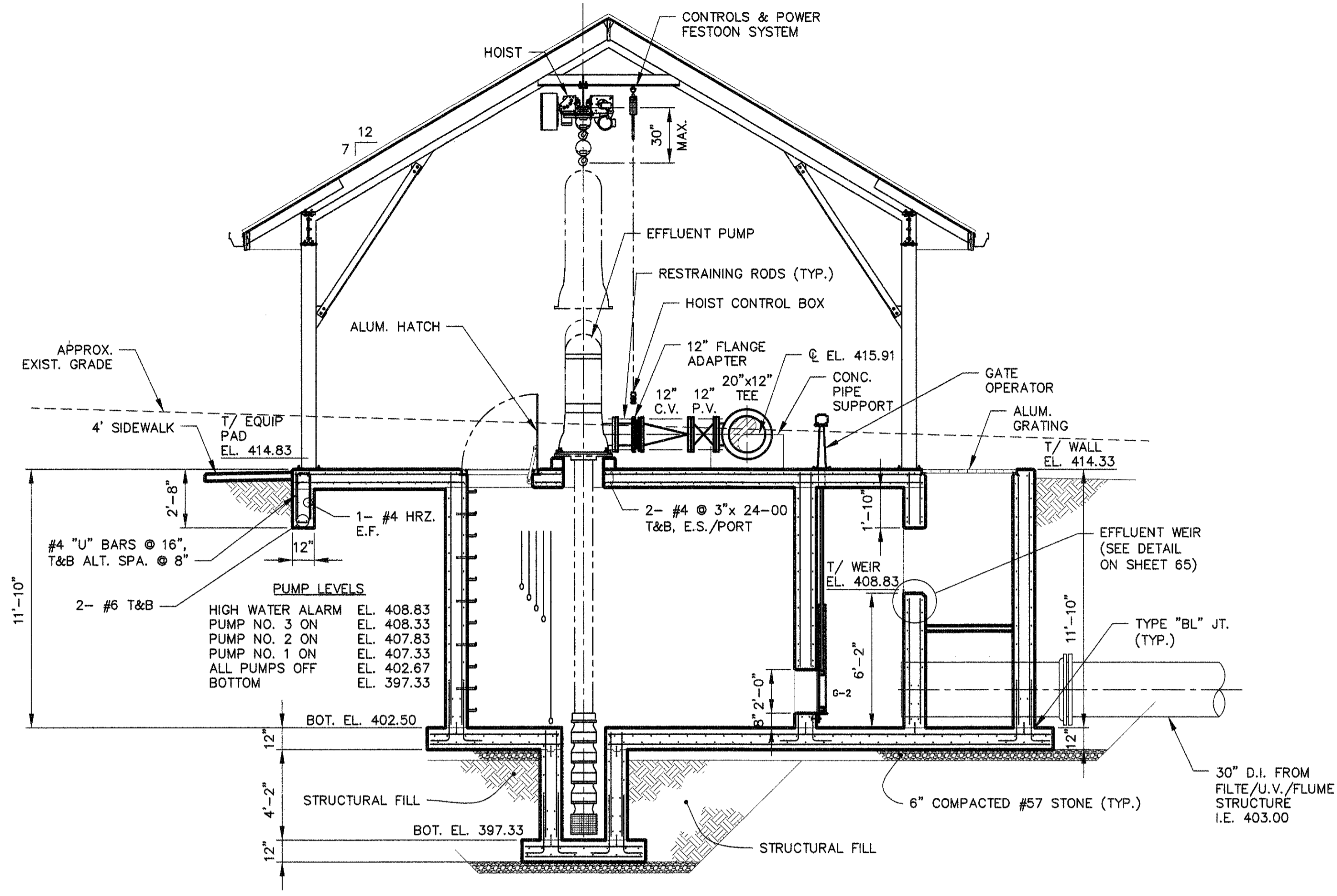
WEST EAVE ELEVATION
SCALE: 3/8" = 1'-0"



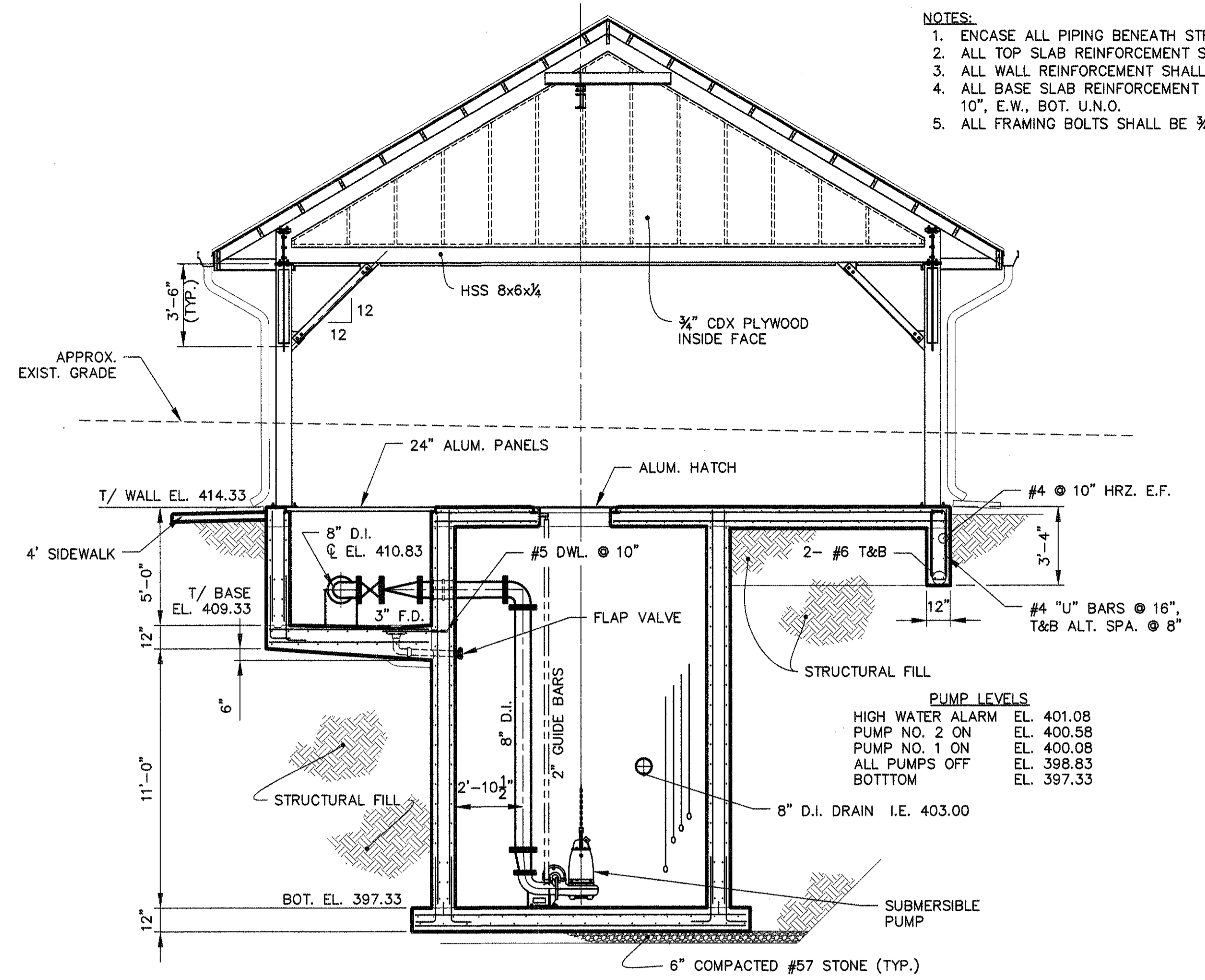
EAST EAVE ELEVATION
SCALE: 3/8" = 1'-0"



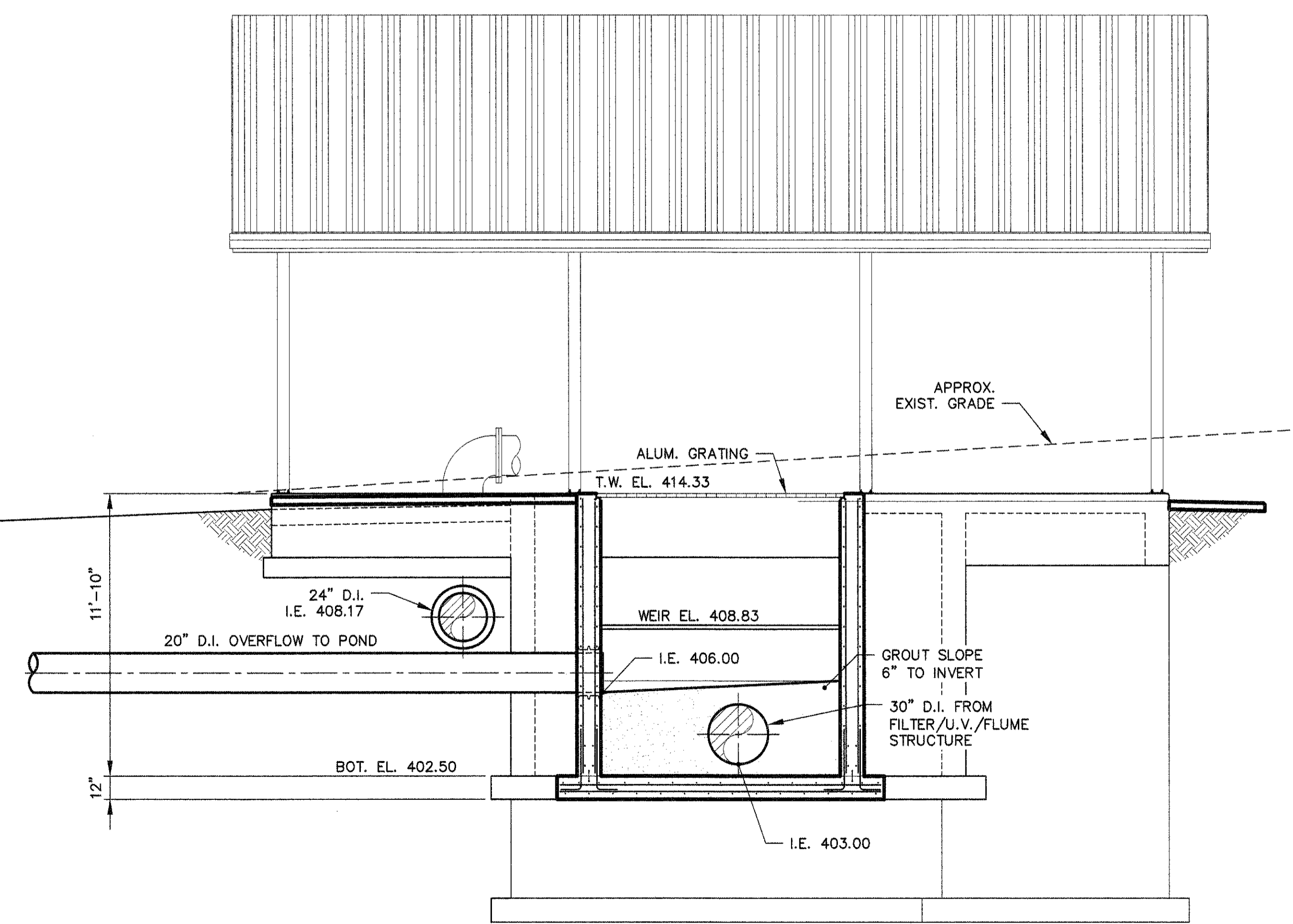
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		PLANT & EFFLUENT PUMP STATION PLANS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 28 OF 77	



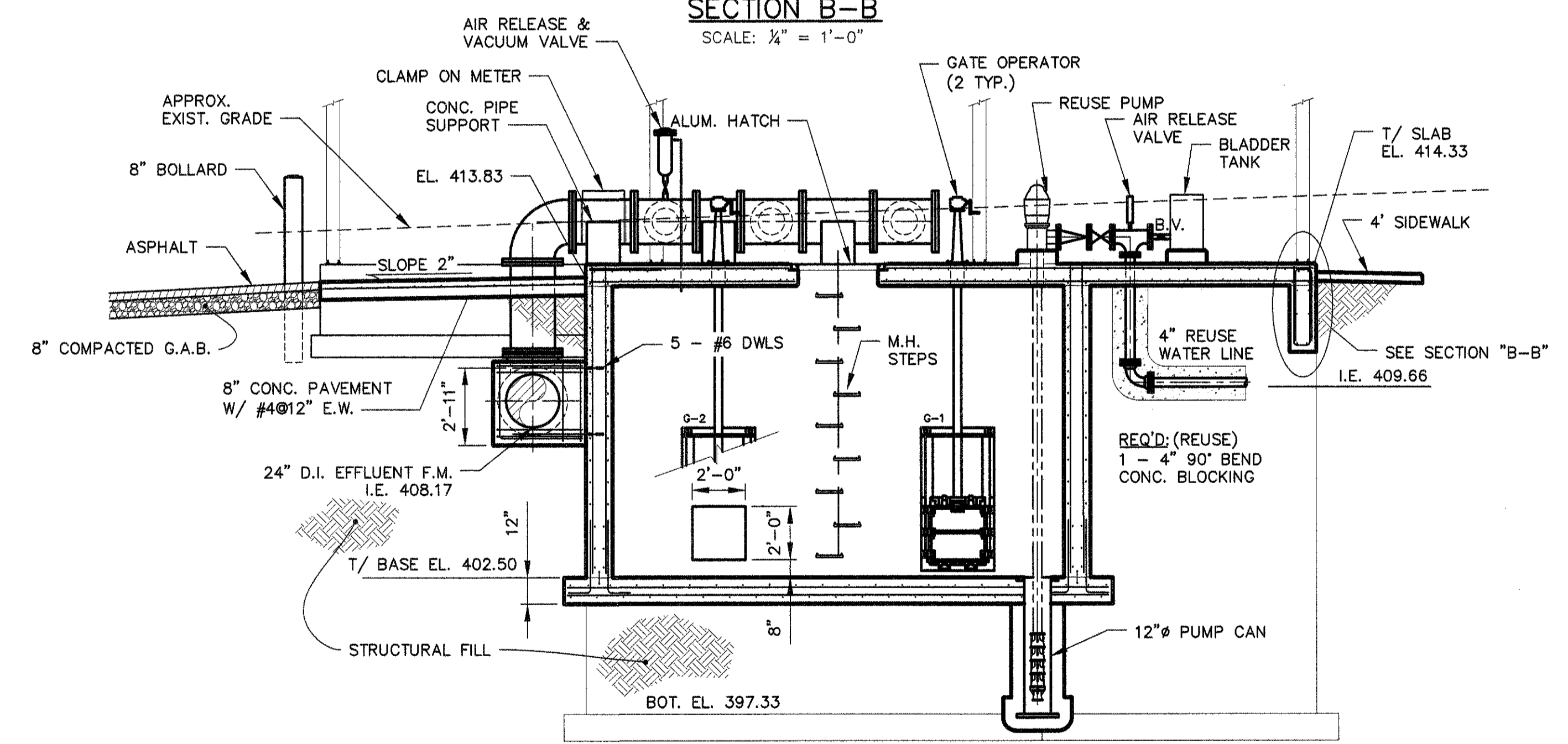
SECTION A-A
SCALE: 1/4" = 1'-0"



SECTION B-B
SCALE: 1/4" = 1'-0"



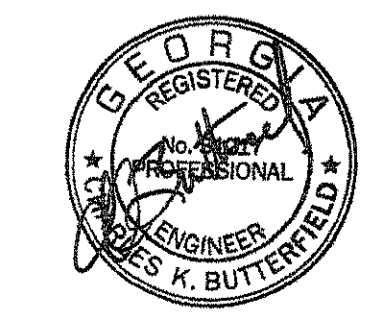
SECTION C-C
SCALE: 1/4" = 1'-0"



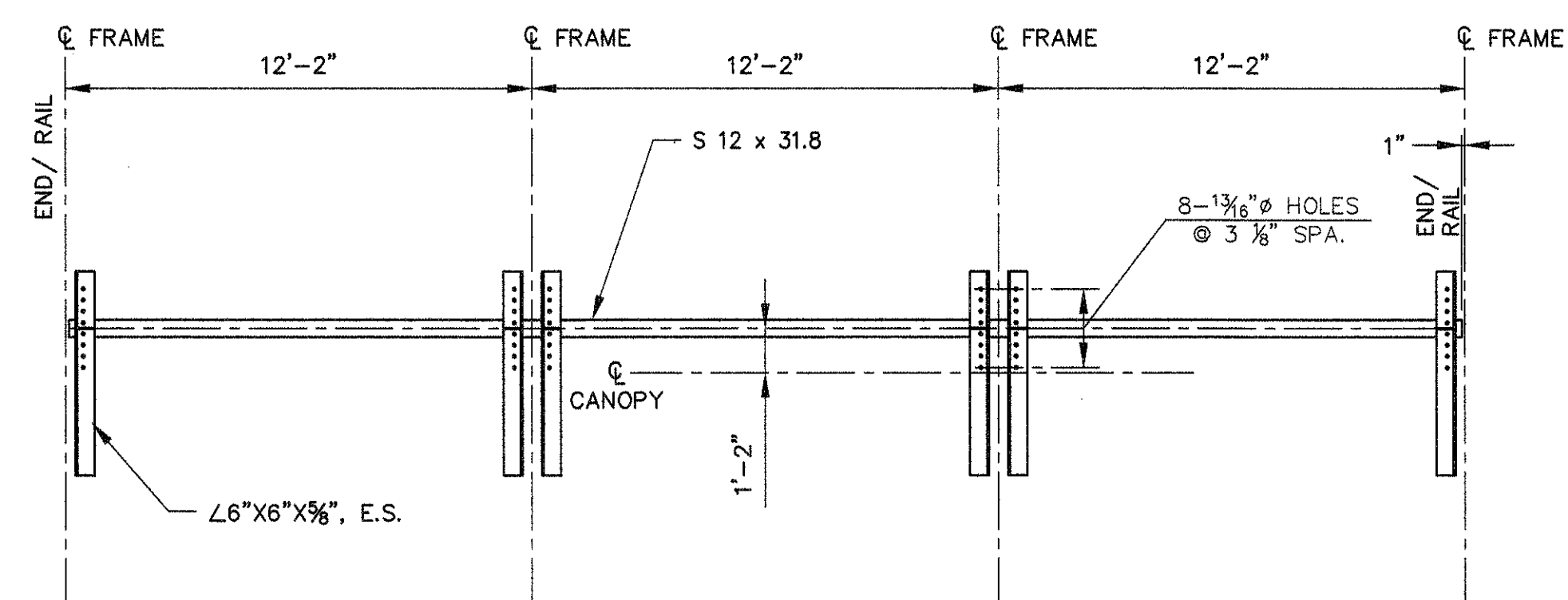
SECTION D-D
SCALE: 1/4" = 1'-0"

- NOTES:**
1. ENCASE ALL PIPING BENEATH STRUCTURE IN 6" MIN. CLASS "C" CONCRETE.
 2. ALL TOP SLAB REINFORCEMENT SHALL BE #4 @ 8", E.W., T&B, U.N.O.
 3. ALL WALL REINFORCEMENT SHALL BE #4 @ 10", E.W., E.F. U.N.O.
 4. ALL BASE SLAB REINFORCEMENT SHALL BE #5 @ 10", E.W., TOP AND #4 @ 10", E.W., BOT. U.N.O.
 5. ALL FRAMING BOLTS SHALL BE 3/4" A325 U.N.O.

REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		
05/2017		
	PLANT & EFFLUENT PUMP STATION SECTIONS	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA
		SHEET 29 OF 77

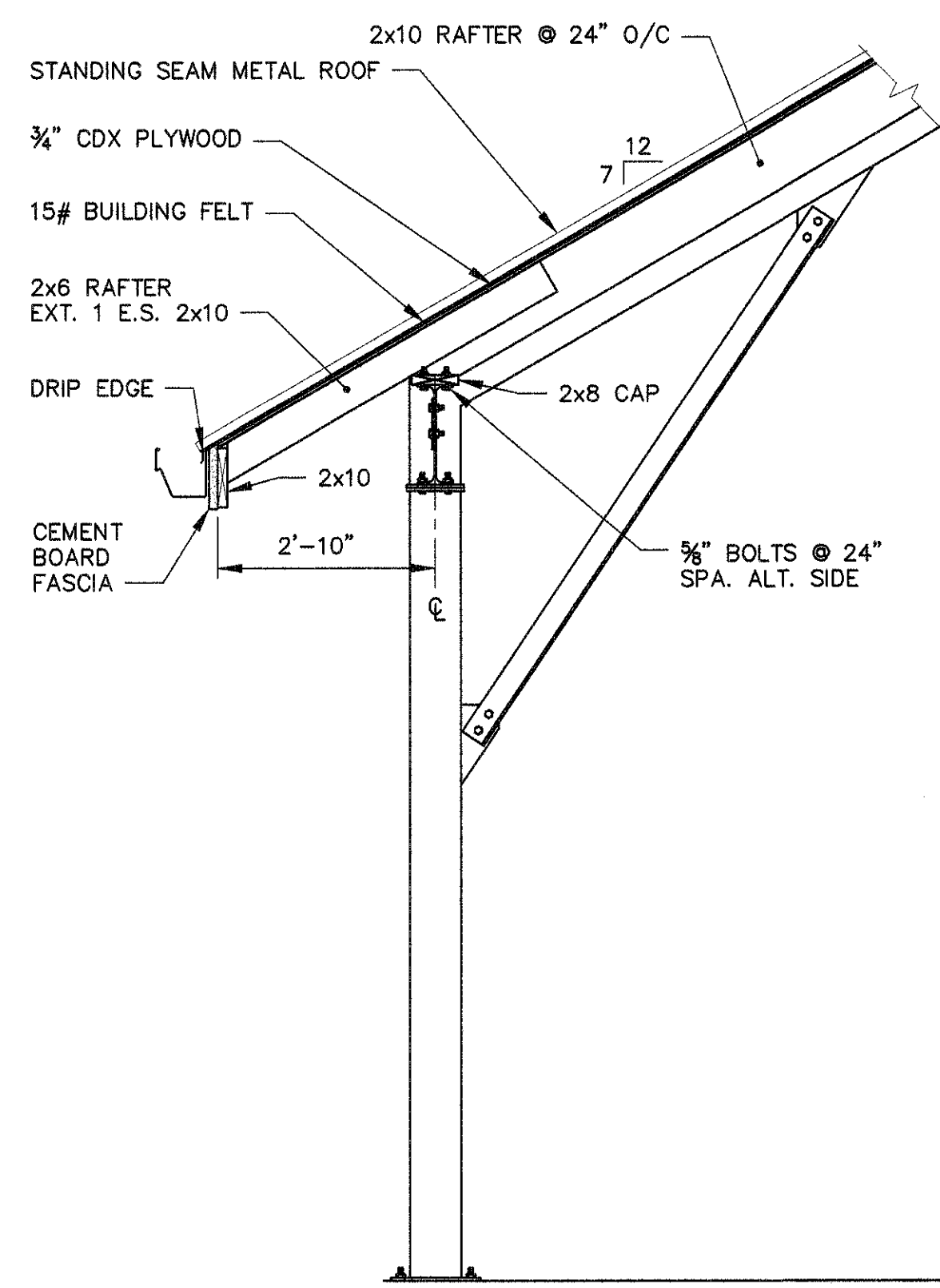


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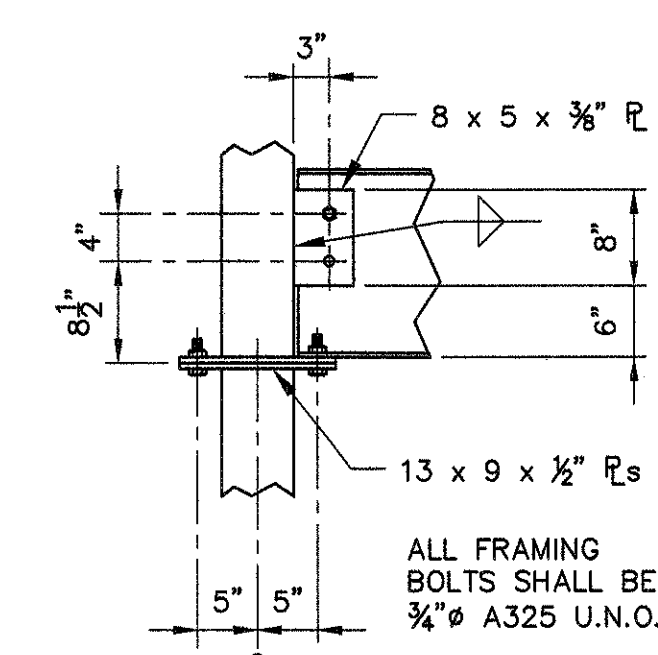
HOIST SUPPORT FRAMING PLAN

SCALE: 1/4" = 1'-0"



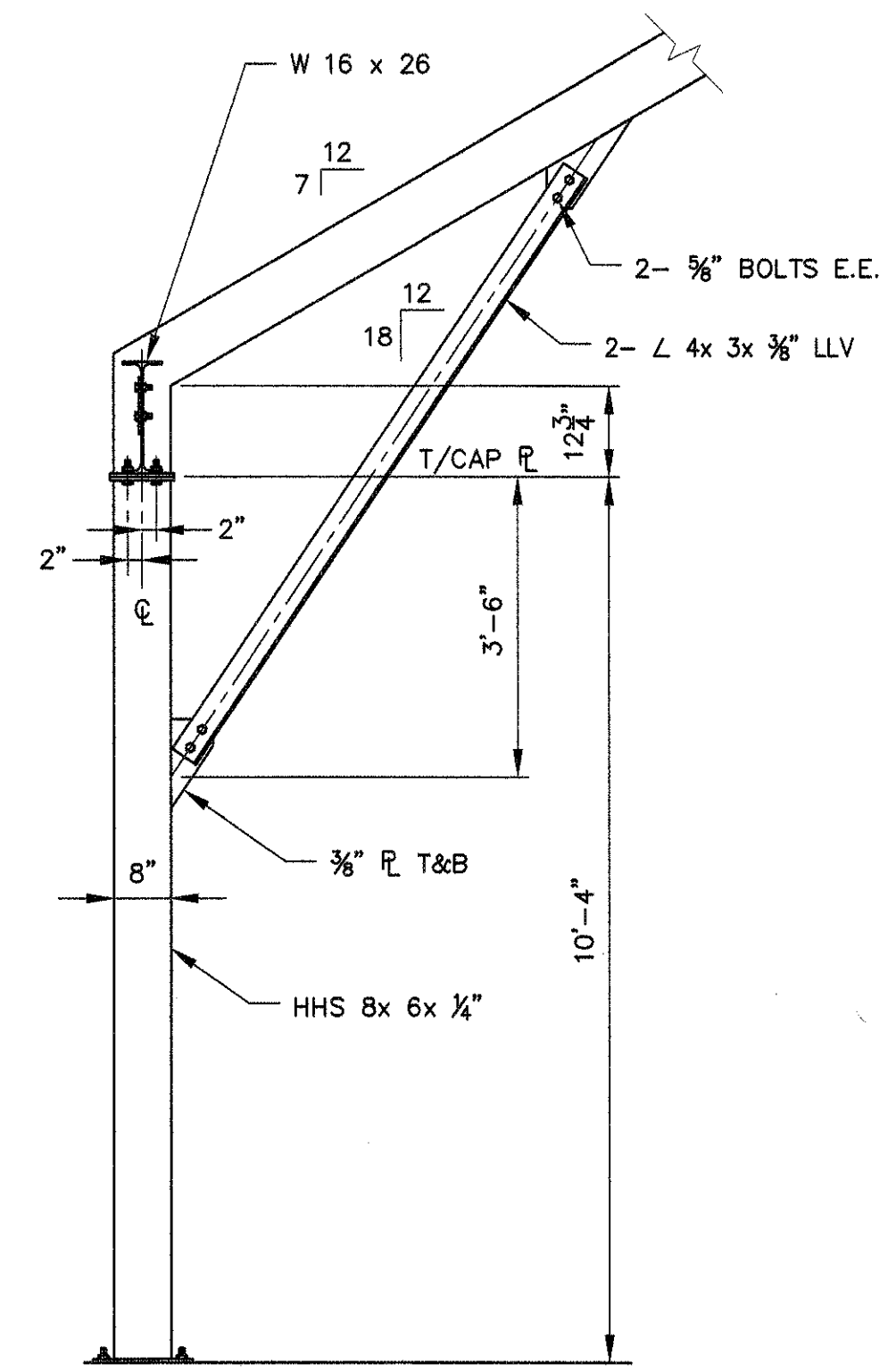
EAVE DETAIL

SCALE: 1/2" = 1'-0"



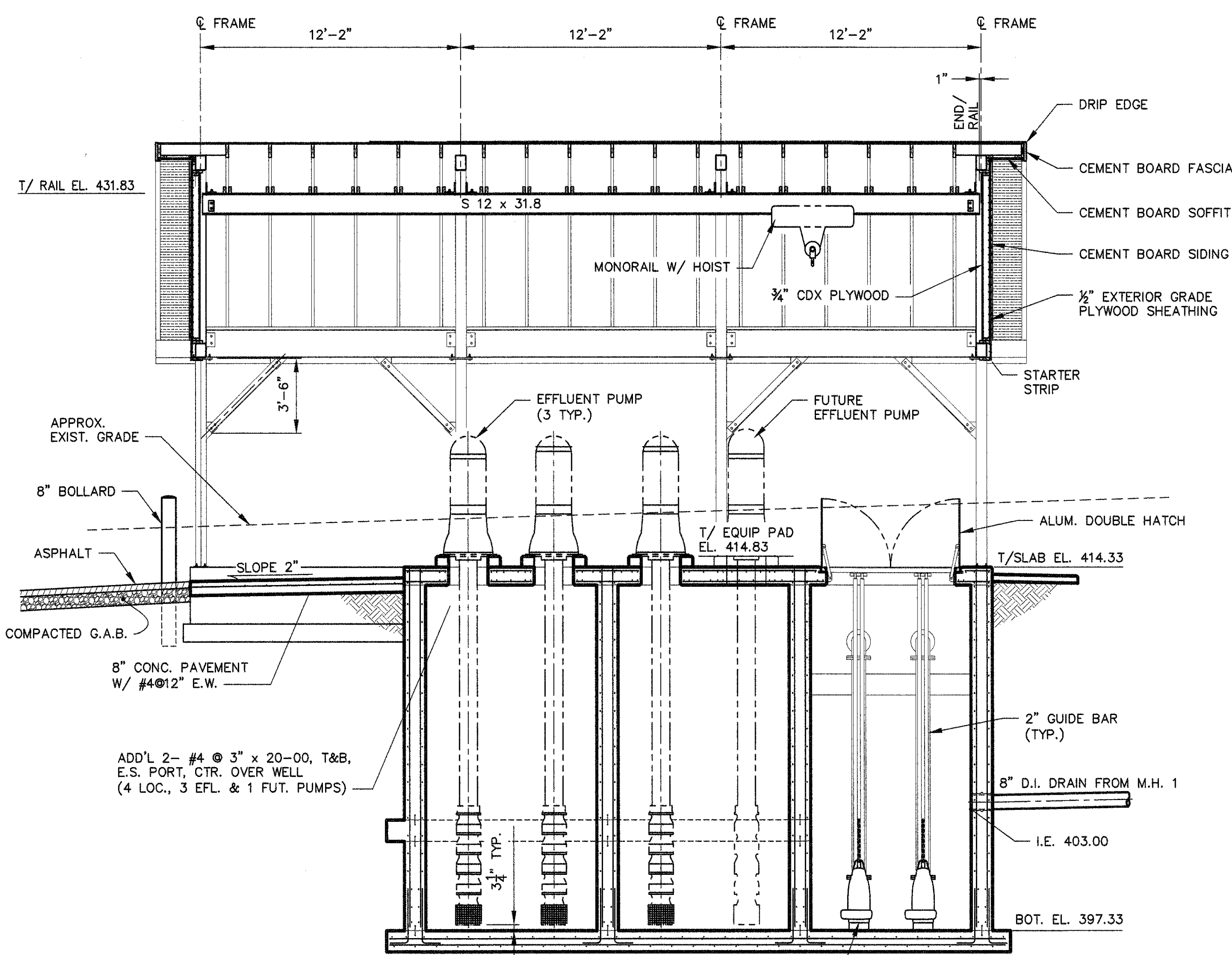
BEAM TO POST CONNECTION DETAIL

SCALE: 3/4" = 1'-0"



FRAME DETAIL

SCALE: 1/2" = 1'-0"



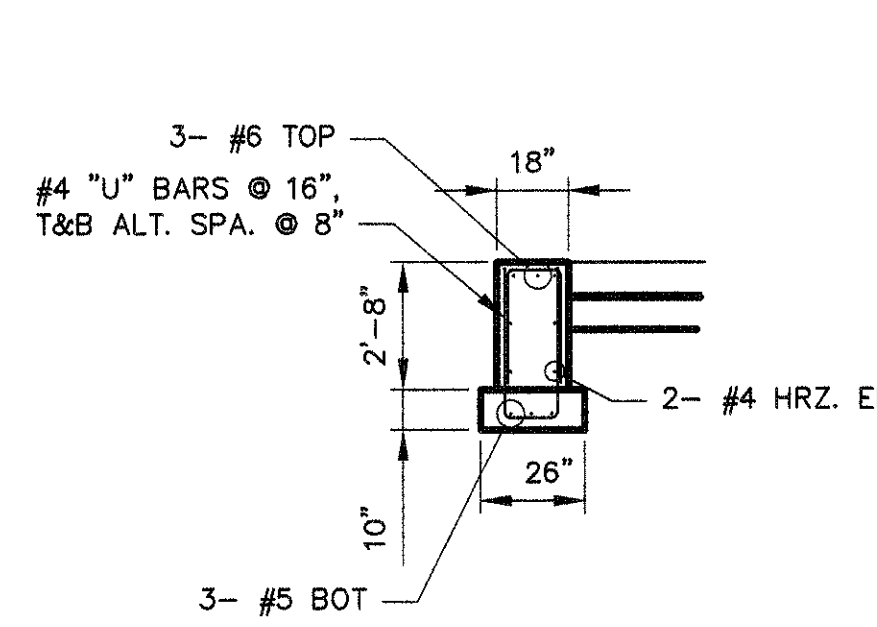
SECTION E-E

SCALE: 1/4" = 1'-0"

- NOTES:**
1. ENCASE ALL PIPING BENEATH STRUCTURE IN 6" MIN. CLASS "C" CONCRETE.
 2. ALL TOP SLAB REINFORCEMENT SHALL BE #4 @ 8", E.W., T&B, U.N.O.
 3. ALL WALL REINFORCEMENT SHALL BE #4 @ 10", E.W., E.F. U.N.O.
 4. ALL BASE SLAB REINFORCEMENT SHALL BE #5 @ 10", E.W., TOP AND #4 @ 10", E.W., BOT. U.N.O.
 5. ALL FRAMING BOLTS SHALL BE 3/4" A325 U.N.O.

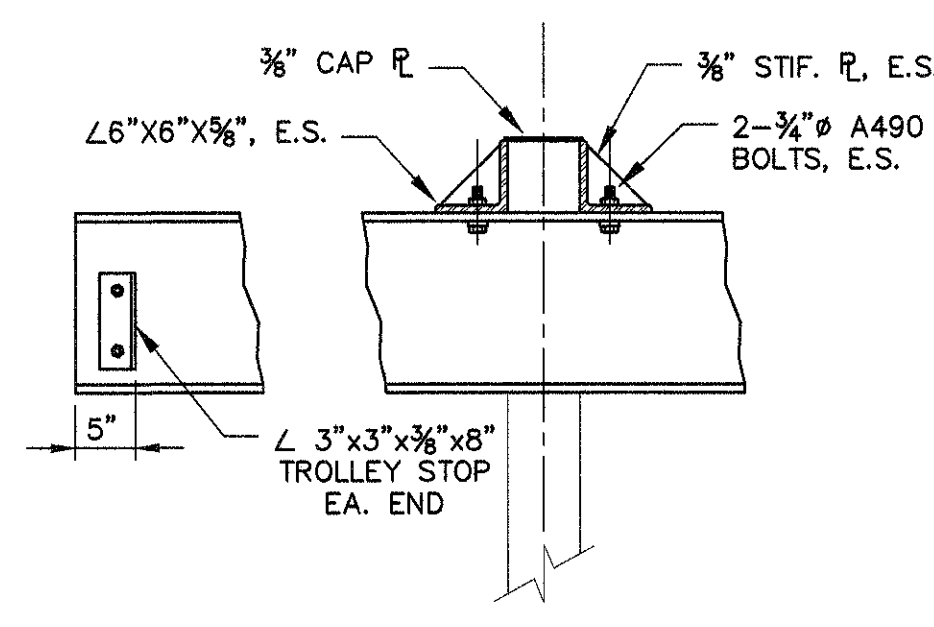
FINISH SCHEDULE	
LOCATION	FINISH
CEILING, SIDING, SOFFIT, FASCIA, PIPING, CANOPY POST & FRAME	PAINT *
METAL ROOF	KYNAR FACTORY COAT*

* SUBMIT COLOR SAMPLES FOR SELECTION BY OWNER



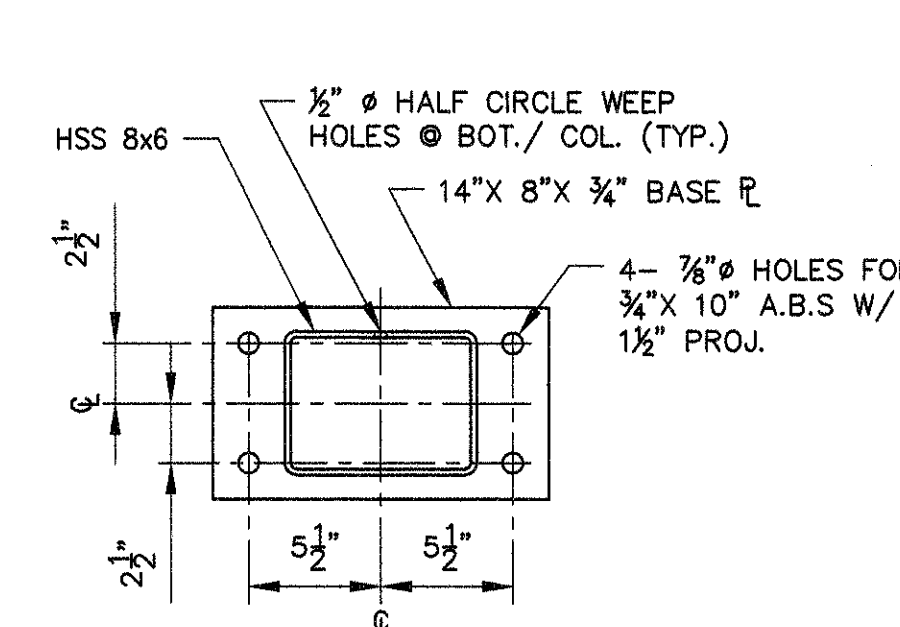
SECTION F-F

SCALE: 1/4" = 1'-0"



HOIST RAIL END DETAIL

SCALE: 3/4" = 1'-0"

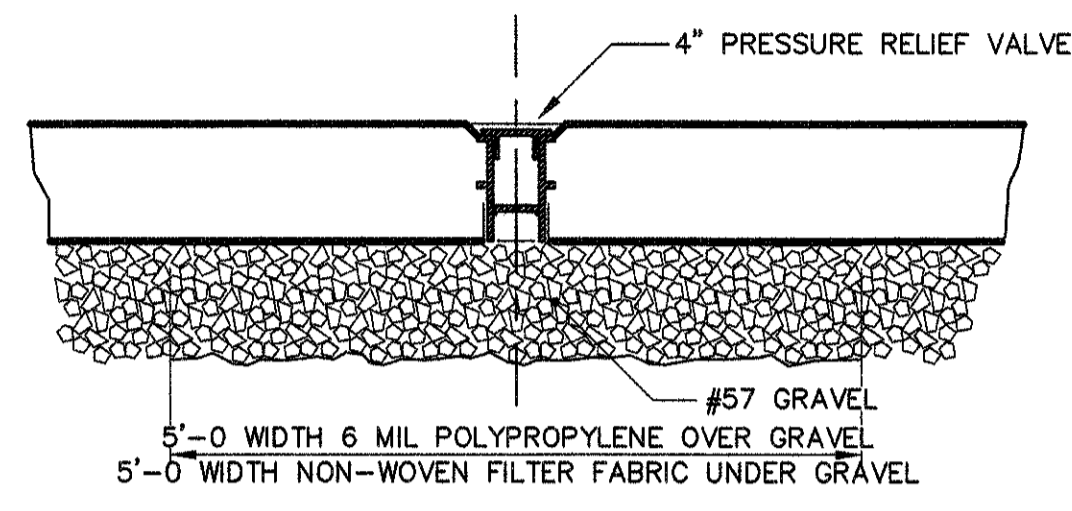
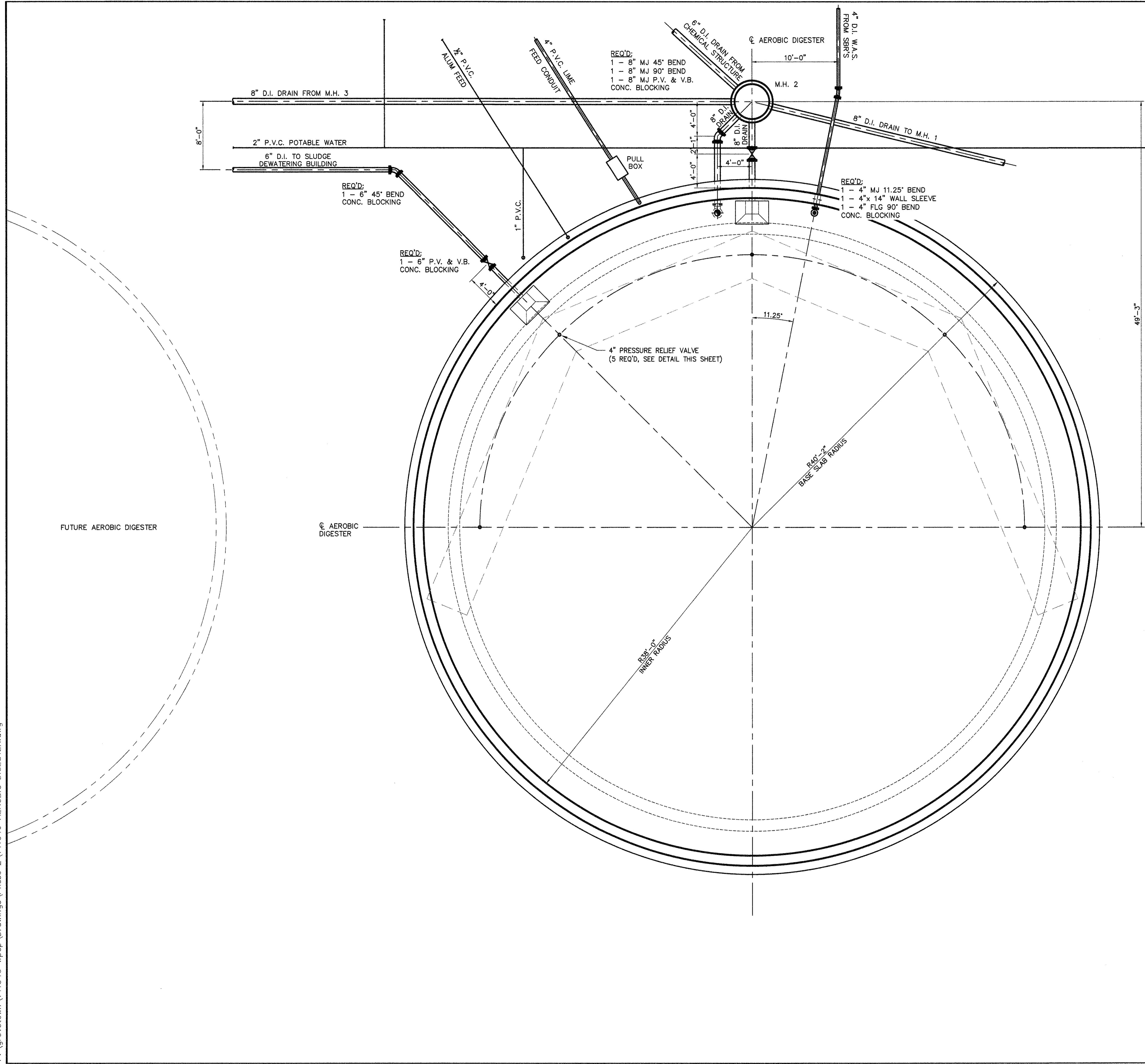


POST BASE DETAILS

SCALE: 1/2" = 1'-0"



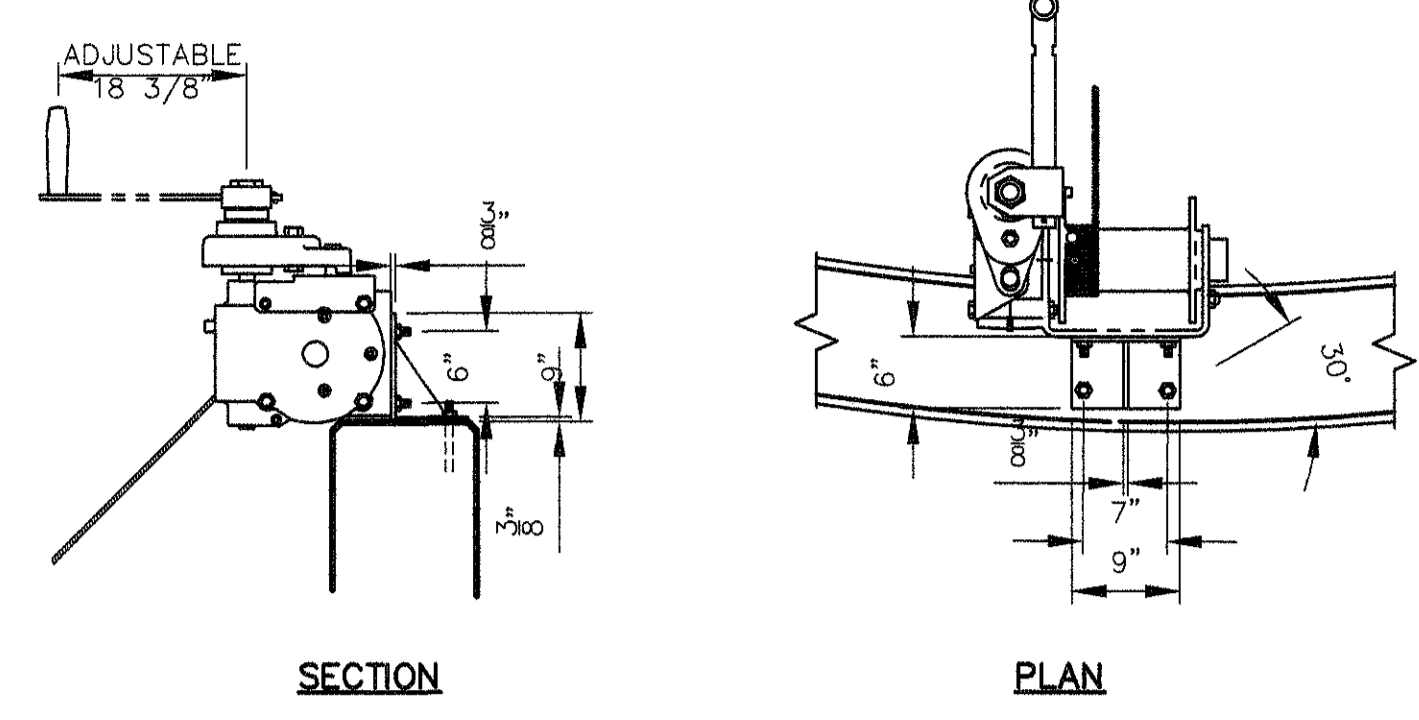
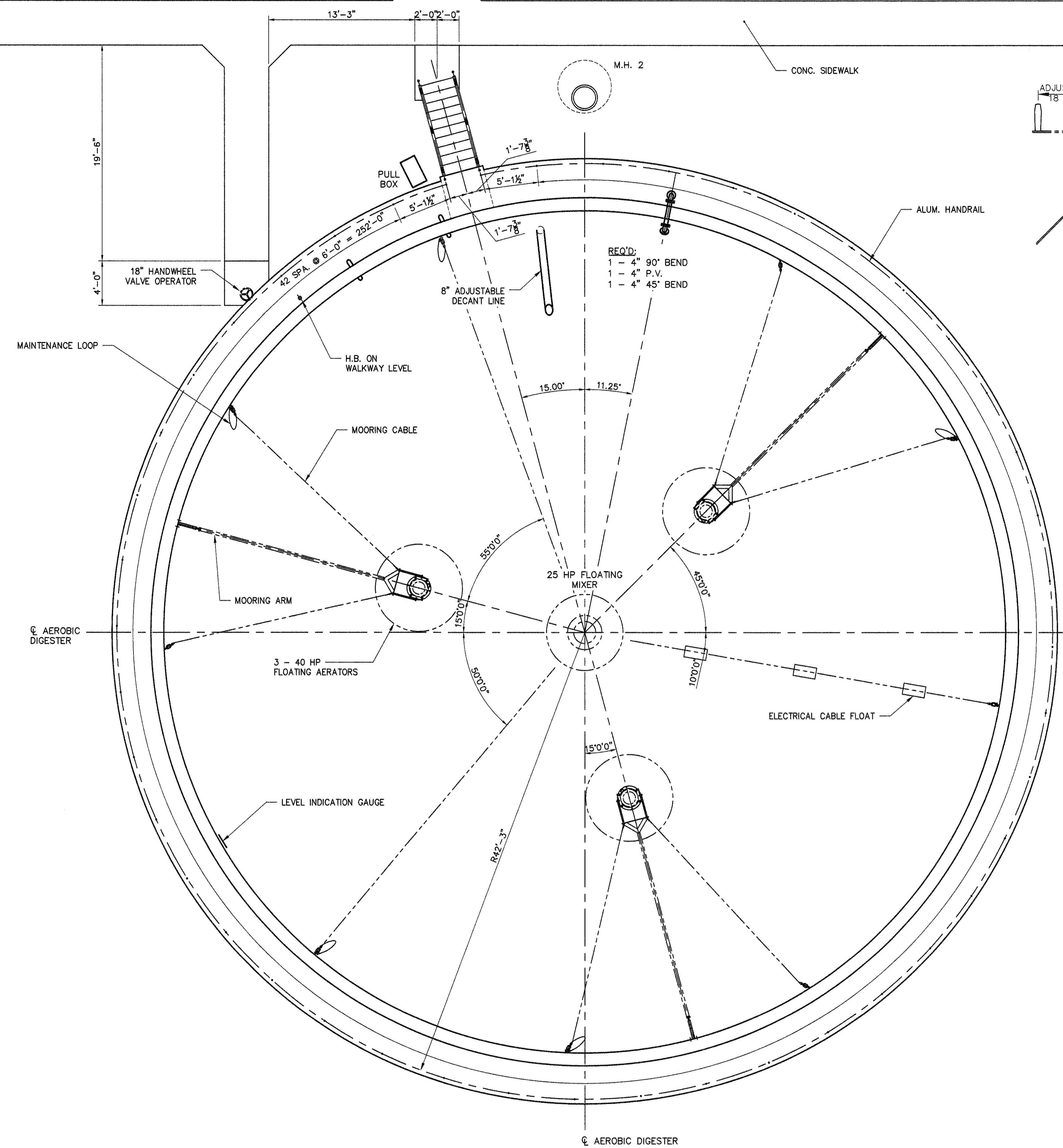
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		PLANT & EFFLUENT PUMP STATION SECTIONS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 30 OF 77	



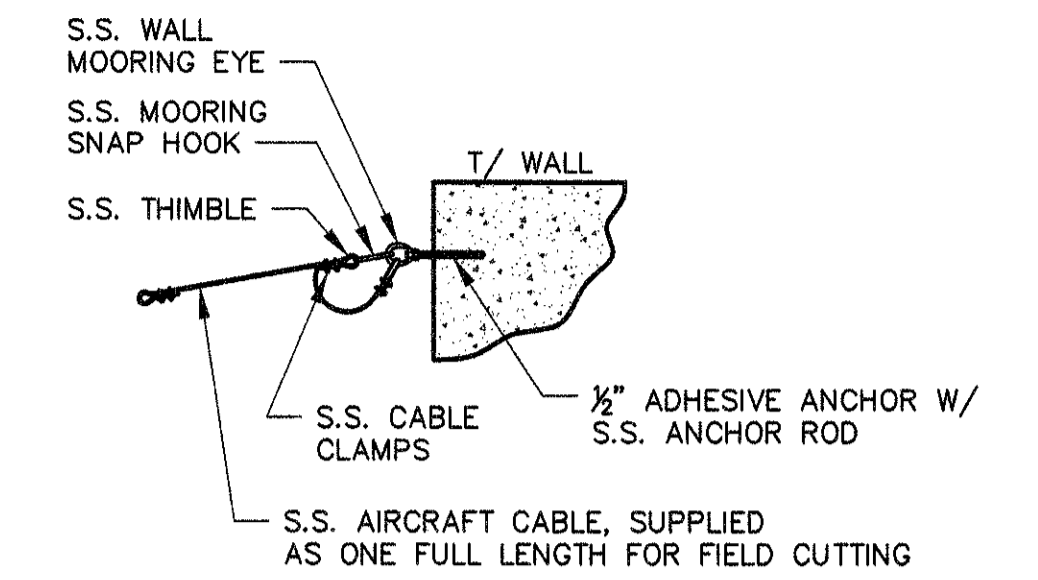
EXTEND POLYPROPYLENE & FILTER FABRIC CONTINUOUS BETWEEN RELIEF VALVES OR MINIMUM 10' EA. SIDE.
TYP. PRESSURE RELIEF VALVE DETAIL
 N.T.S.

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		AEROBIC DIGESTER BOTTOM PLAN	
DRAWN	CHECKED	SCALE: 3/16" = 1'-0" DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 31 OF 77	

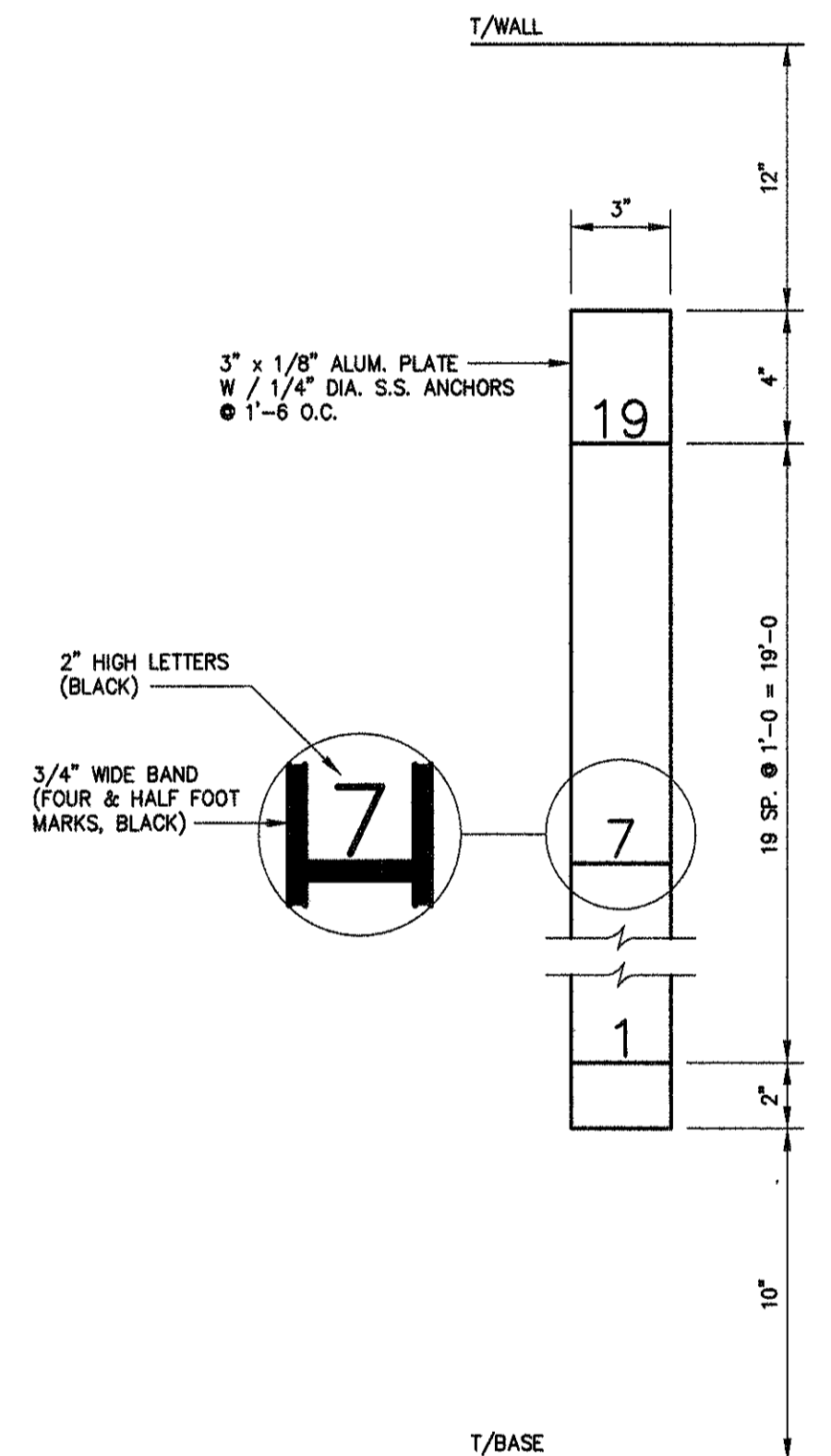




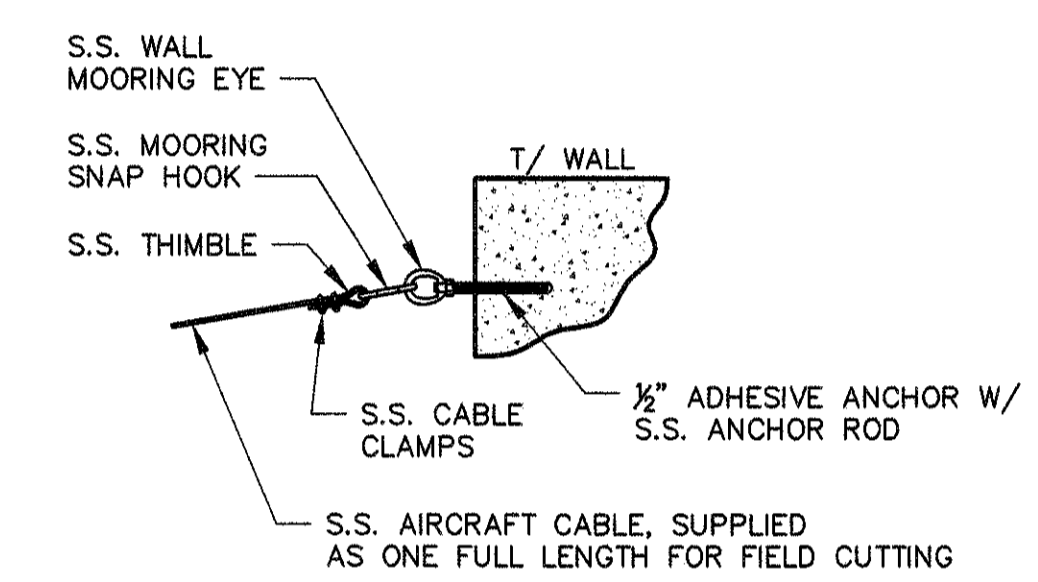
TERN 482B OR EQUAL HAND WINCH WITH FABRICATED STEEL MOUNT
WINCH DETAIL
 SCALE: 3/4" = 1'-0"



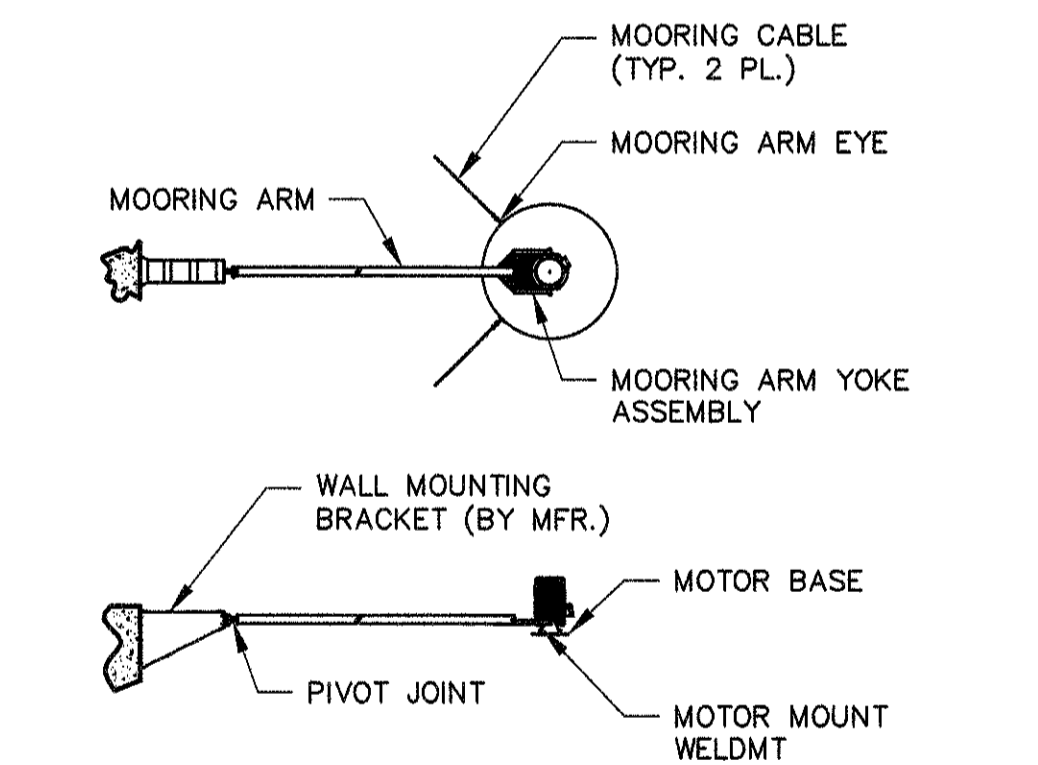
NOTE: POLYPROPYLENE MAINTENANCE LOOP PROVIDED TO ALLOW UNIT TO REST ON BASIN FLOOR IN DEWATERED POSITION OR TO ALLOW UNIT TO BE ACCESSED FROM THE SIDE OF BASIN FOR MAINTENANCE.
MAINTENANCE LOOP MOORING CABLE DETAIL
 SCALE: N.T.S.



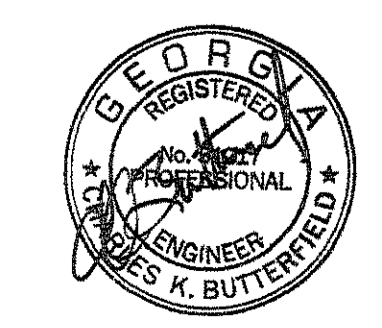
NOTE: 1. ALL MATERIALS SHALL BE ALUM. ALLOY 6061, WELDED CONSTRUCTION EXCEPT BOLTS WHICH ARE STAINLESS STEEL.
 2. FELT GASKET SHALL BE USED AT ALL ALUM. AND CONC. CONNECTIONS.
 3. ALUMINUM PLATE SURFACE SHALL BE PRETREATED WITH A VINYL BUTYRAL BASIC ZINC CHROMATE PRIMER COAT ENTIRE SURFACE WITH ONE COAT OF WHITE EPOXY AS SPECIFIED. LETTERS AND BANDS SHALL BE PAINTED, SAME, WITH BLACK COLOR.
LEVEL INDICATION GAUGE DETAIL
 SCALE: N.T.S.



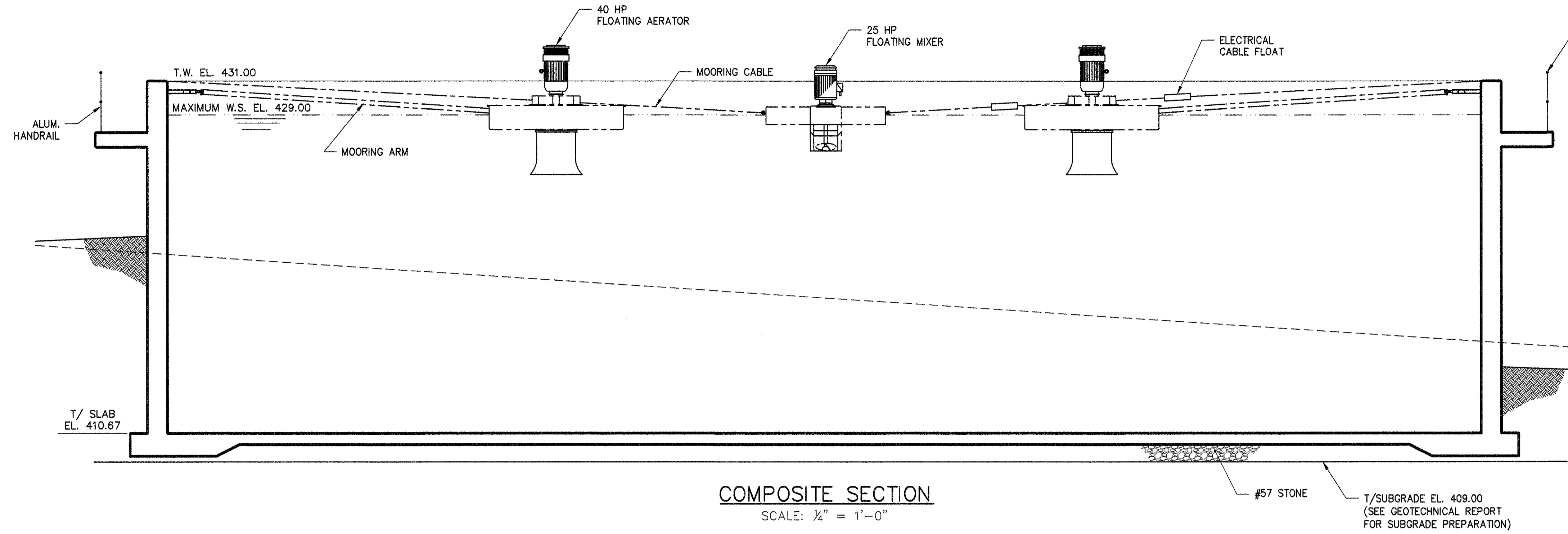
NOTE: POLYPROPYLENE MAINTENANCE LOOP PROVIDED TO ALLOW UNIT TO REST ON BASIN FLOOR IN DEWATERED POSITION OR TO ALLOW UNIT TO BE ACCESSED FROM THE SIDE OF BASIN FOR MAINTENANCE.
MAINTENANCE CABLE DETAIL
 SCALE: N.T.S.



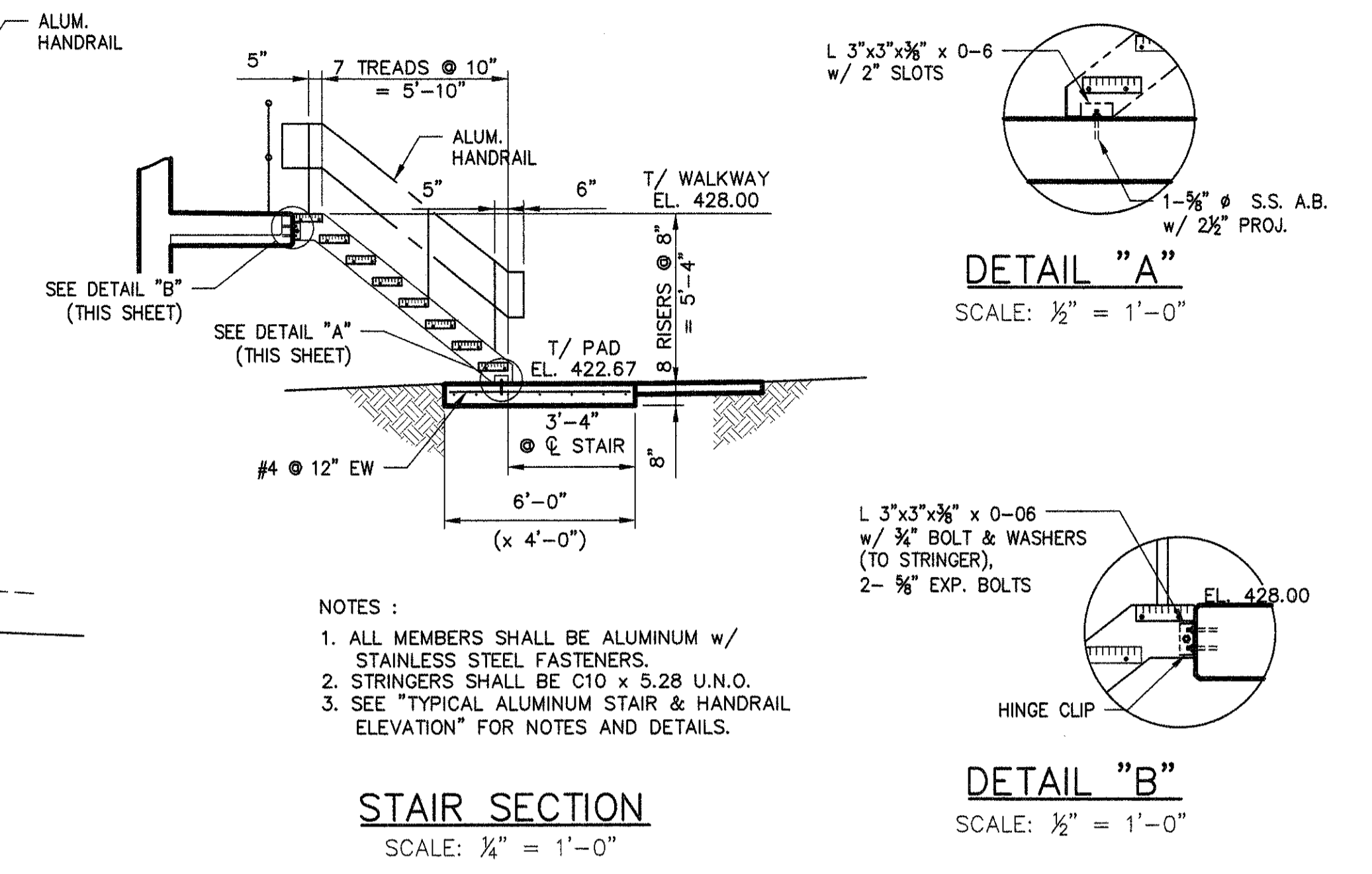
NOTE: TY-WRAP ELECTRICAL CABLE TO ARM
TYPICAL AERATOR / MIXER MOORING ARM DETAIL
 SCALE: N.T.S.



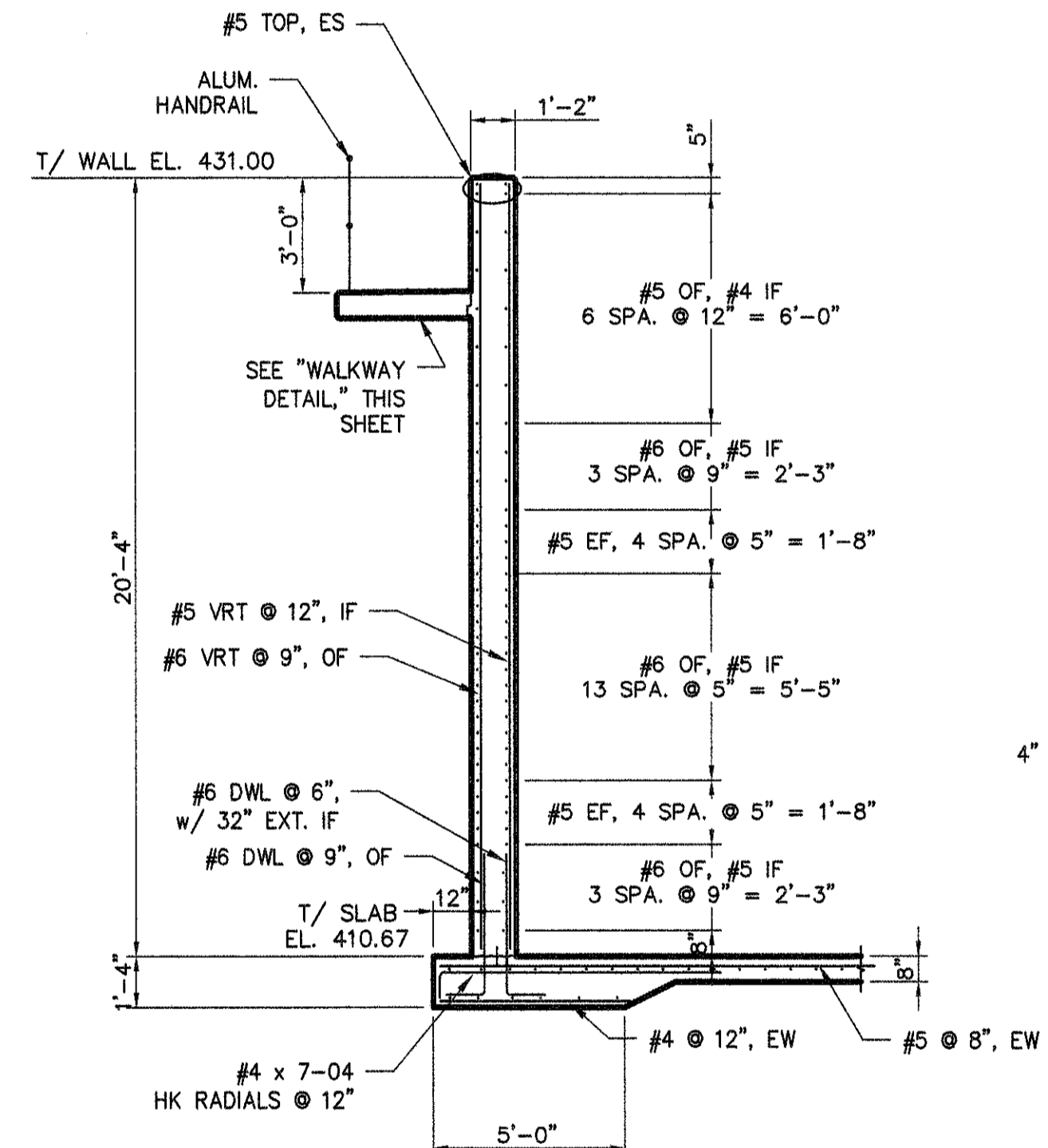
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		AEROBIC DIGESTER TOP PLAN & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
			SHEET 32 OF 77



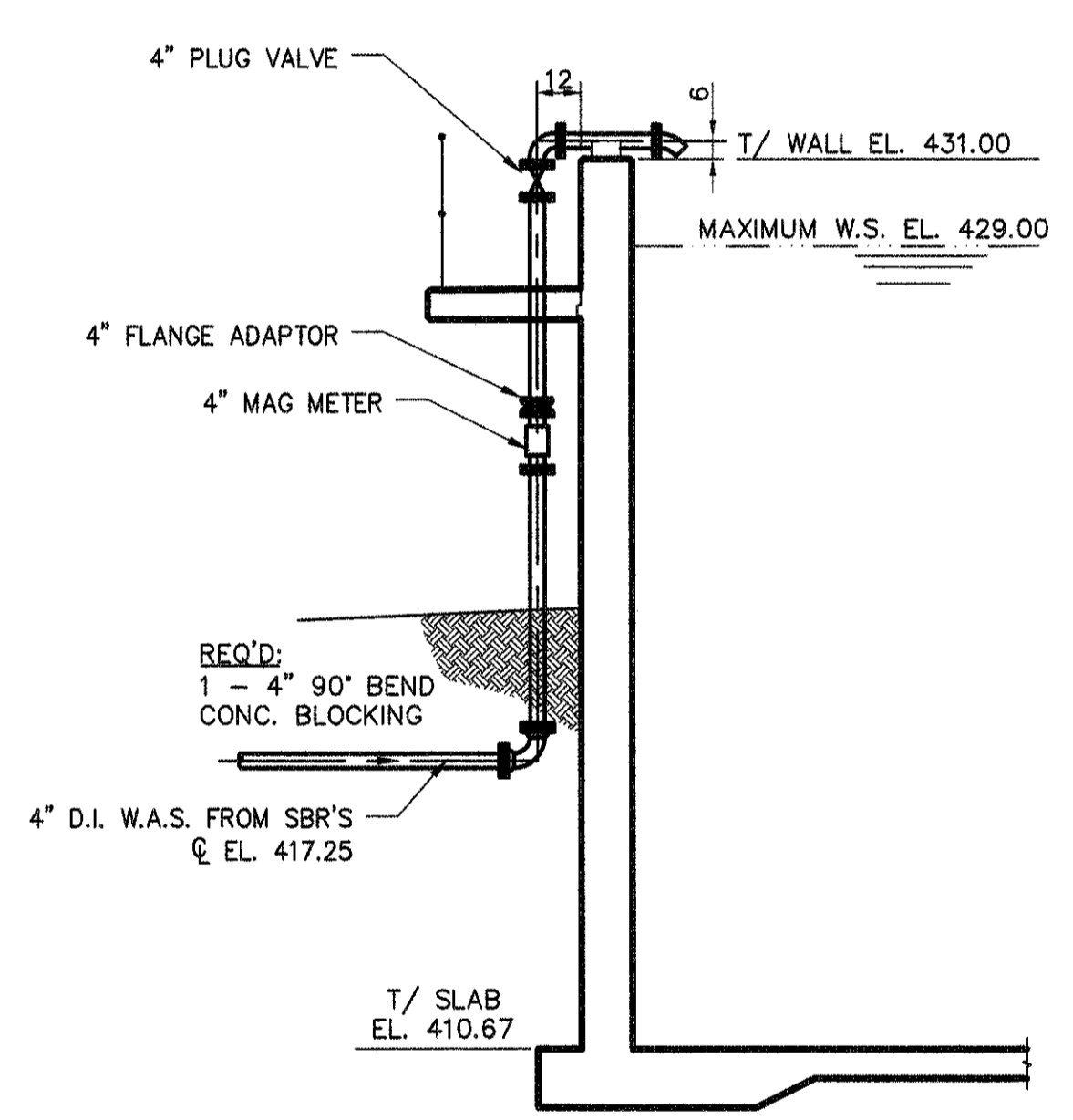
COMPOSITE SECTION
SCALE: 1/4" = 1'-0"



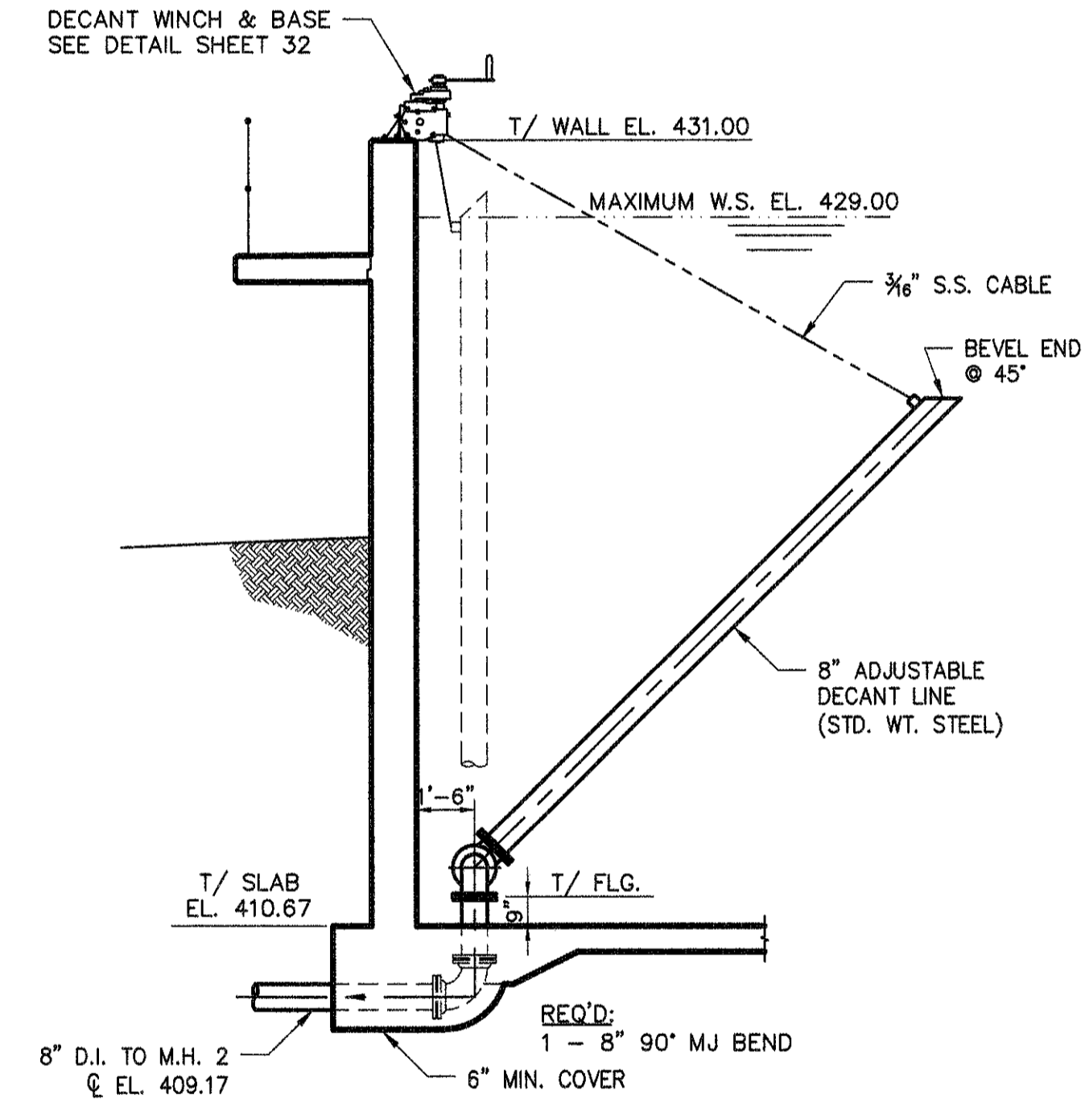
STAIR SECTION
SCALE: 1/4" = 1'-0"



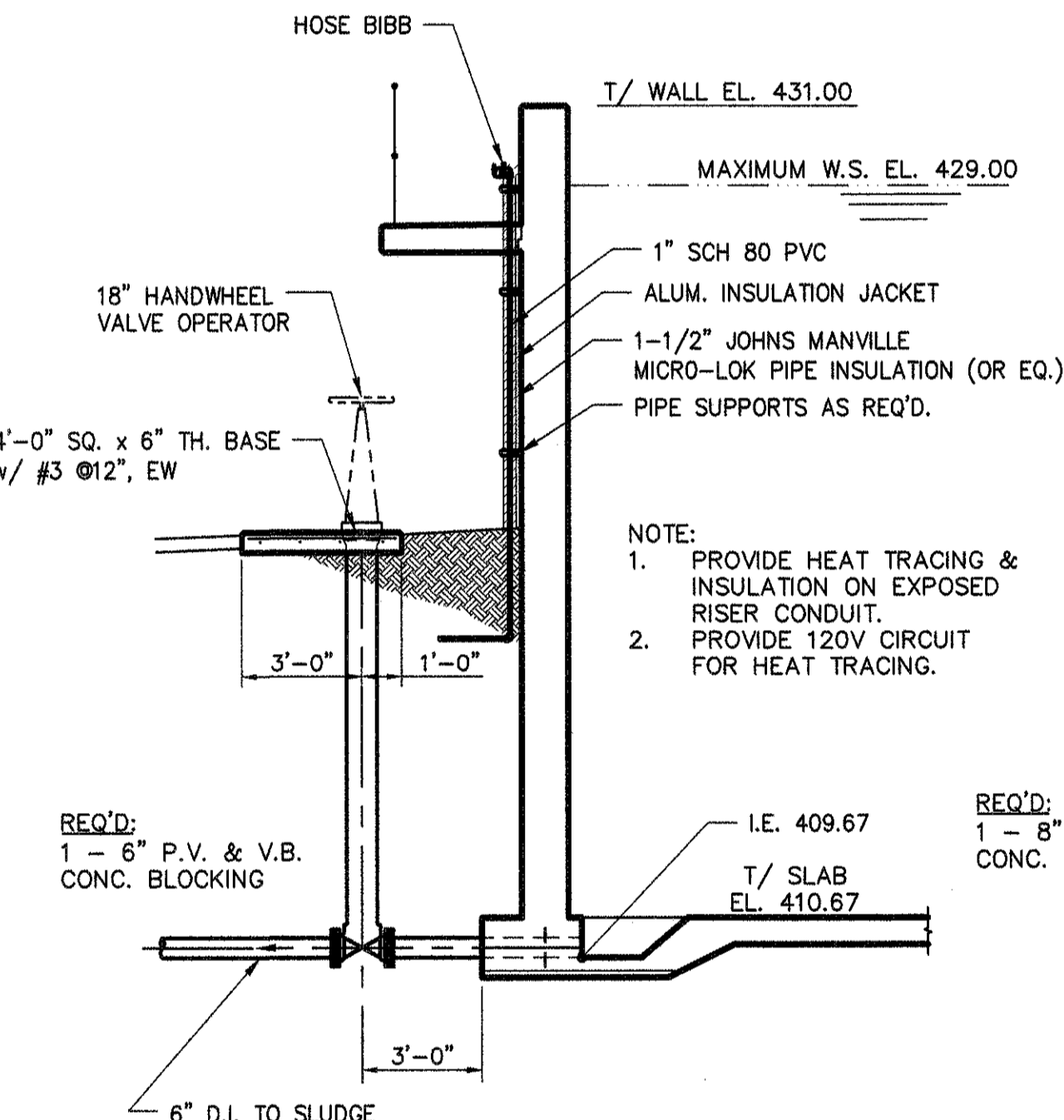
TYPICAL WALL SECTION
SCALE: 1/4" = 1'-0"



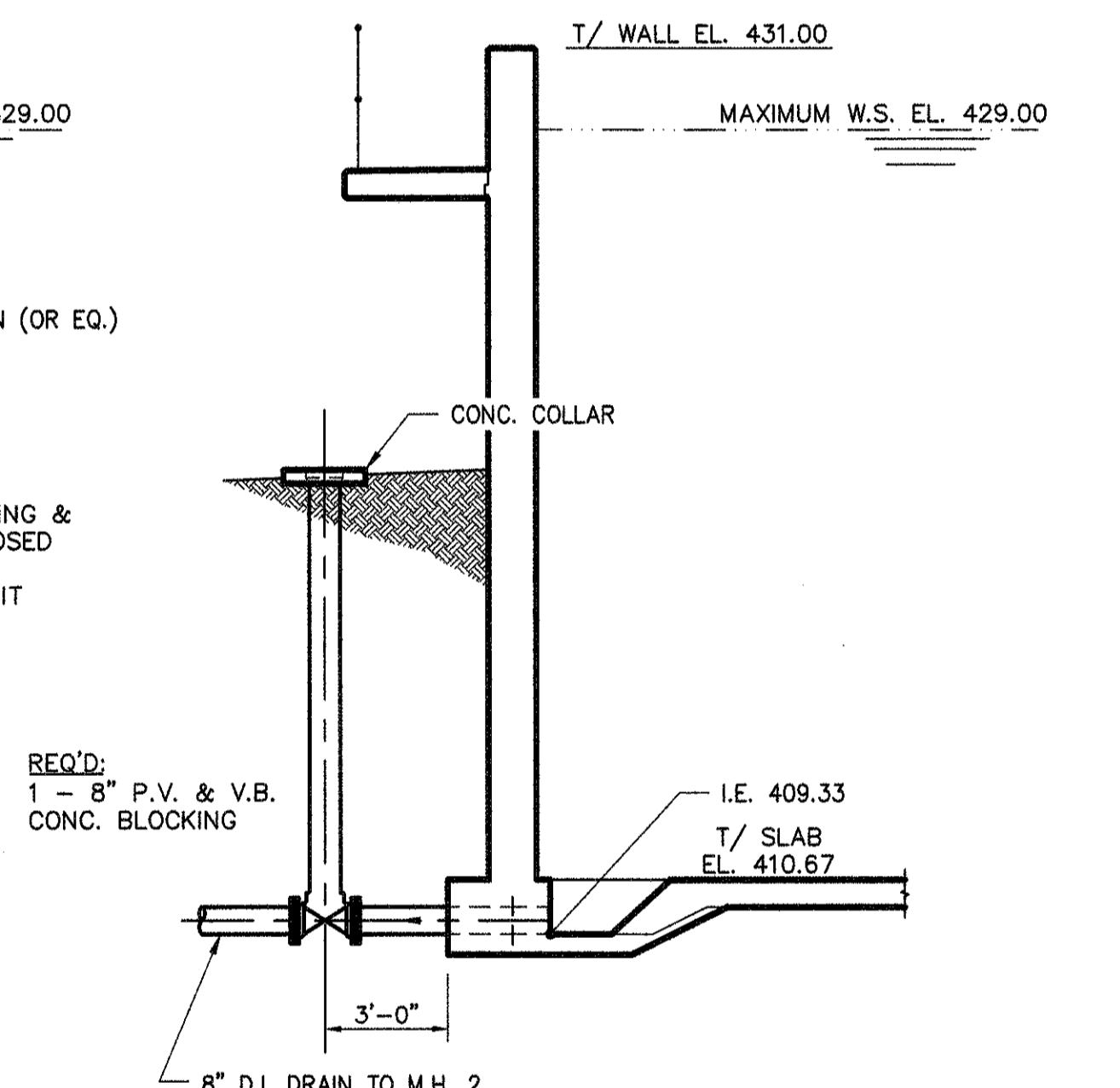
INFLUENT SECTION
SCALE: 1/2" = 1'-0"



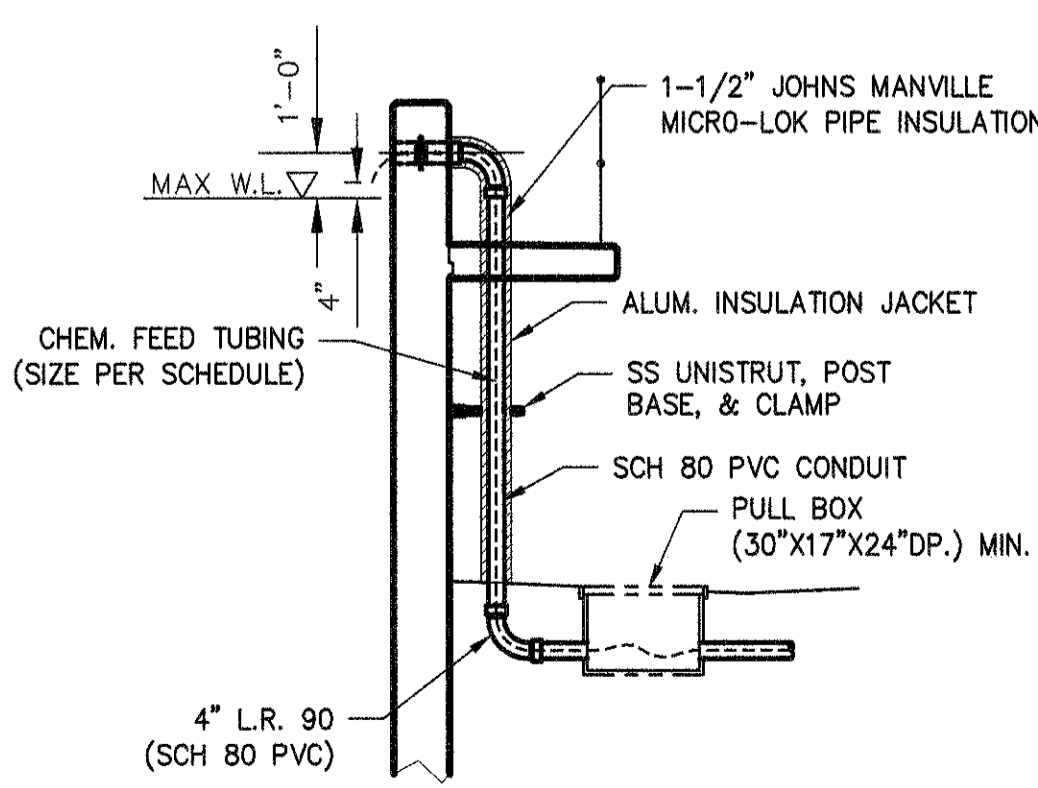
DECANT SECTION
SCALE: 1/4" = 1'-0"



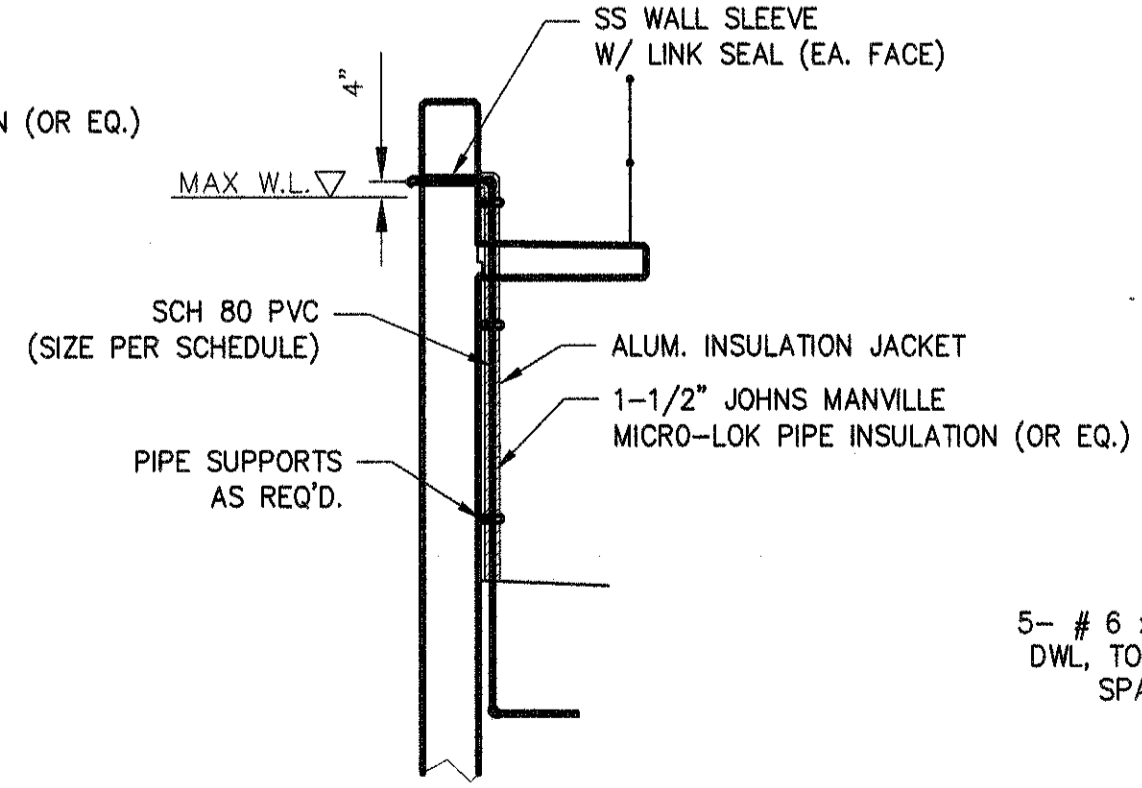
EFFLUENT SECTION
SCALE: 1/4" = 1'-0"



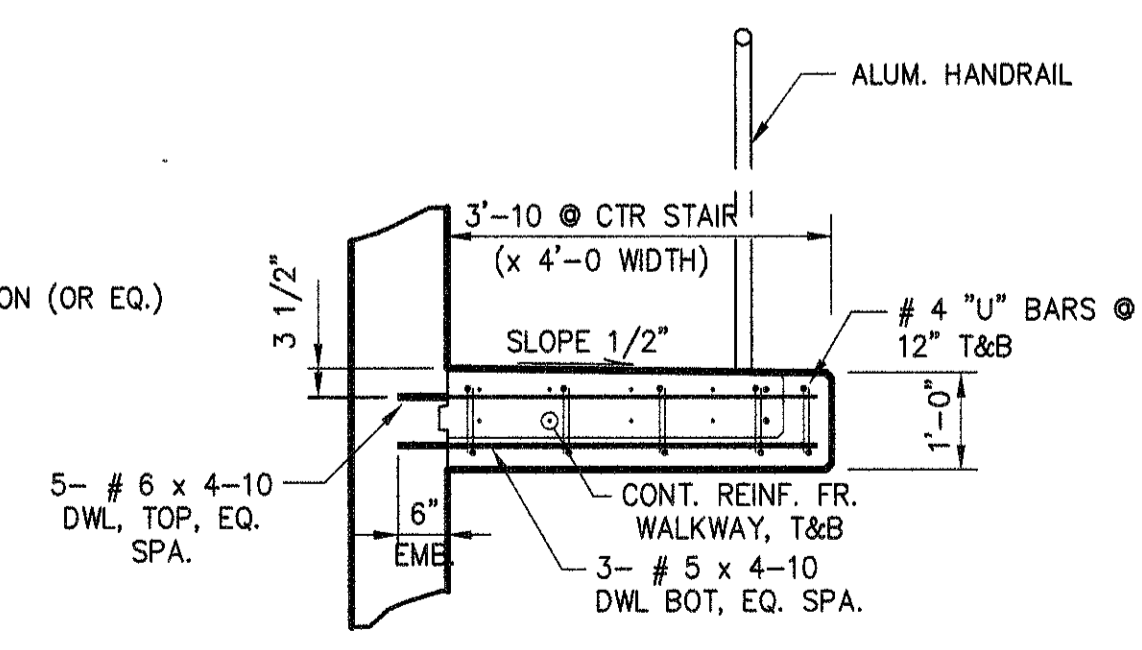
DRAIN SECTION
SCALE: 1/4" = 1'-0"



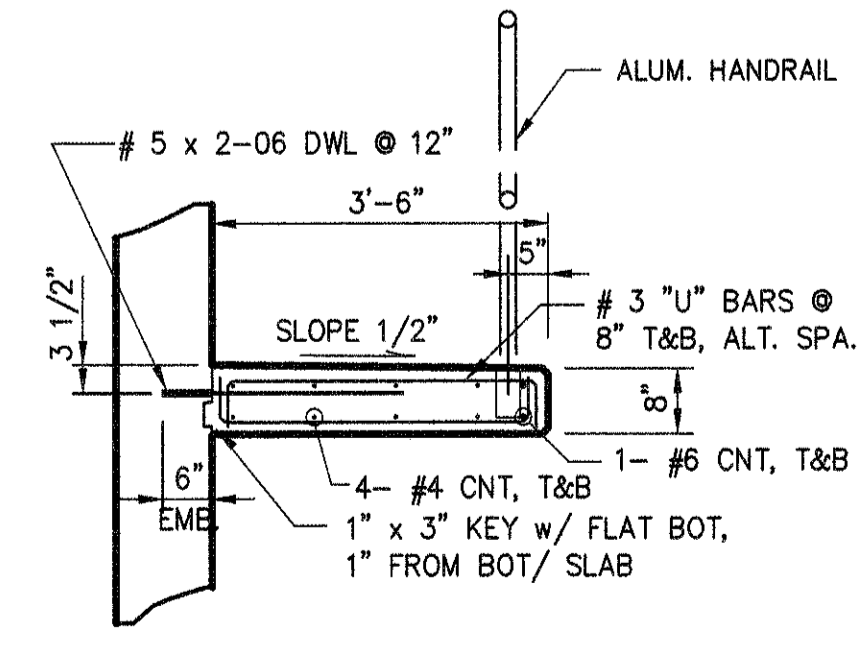
LIME FEED @ DIGESTER
SCALE: 1/4" = 1'-0"



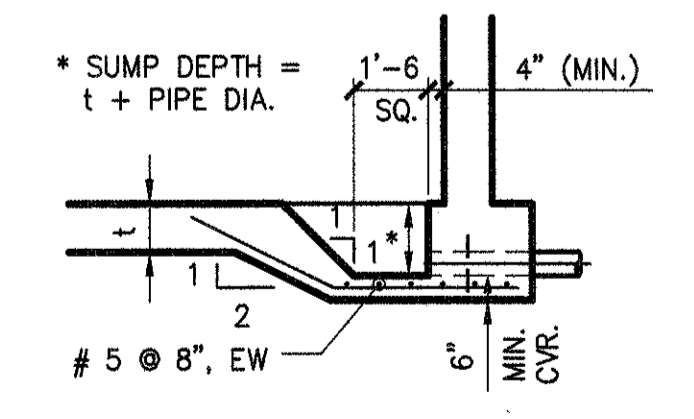
ALUM FEED @ DIGESTER
SCALE: 1/4" = 1'-0"



STAIR LANDING DETAIL
SCALE: 1/2" = 1'-0"



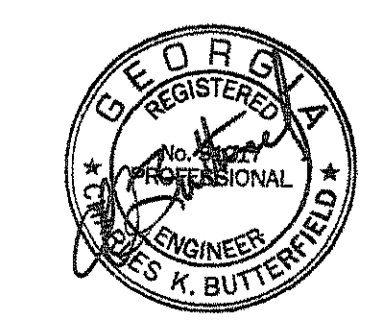
WALKWAY DETAIL
SCALE: 1/2" = 1'-0"



TYP. SUMP DETAIL
SCALE: N.T.S.

- NOTE:
1. PROVIDE HEAT TRACING & INSULATION ON EXPOSED RISER CONDUIT.
2. PROVIDE 120V CIRCUIT FOR HEAT TRACING.

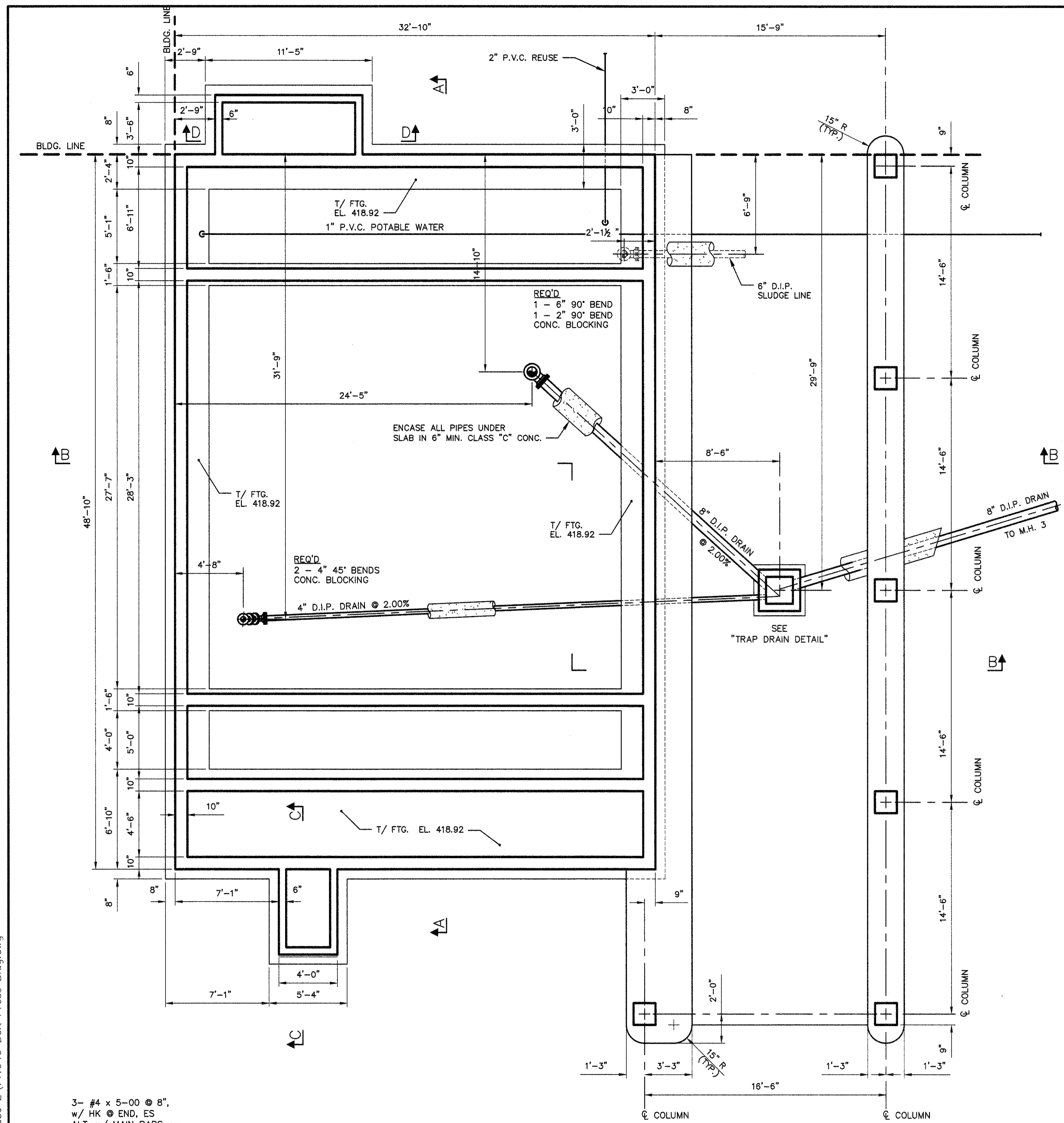
- NOTE:
1. PROVIDE INSULATION ON EXPOSED RISER PIPE. HEAT TRACING IS NOT REQUIRED.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		AEROBIC DIGESTER SECTIONS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 33 OF 77	

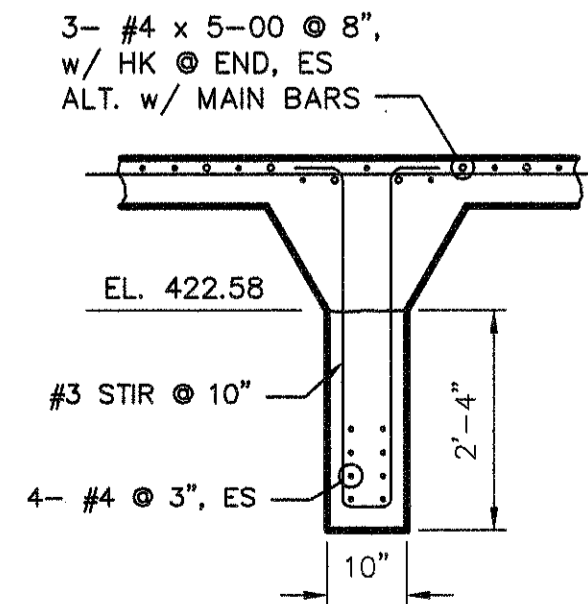
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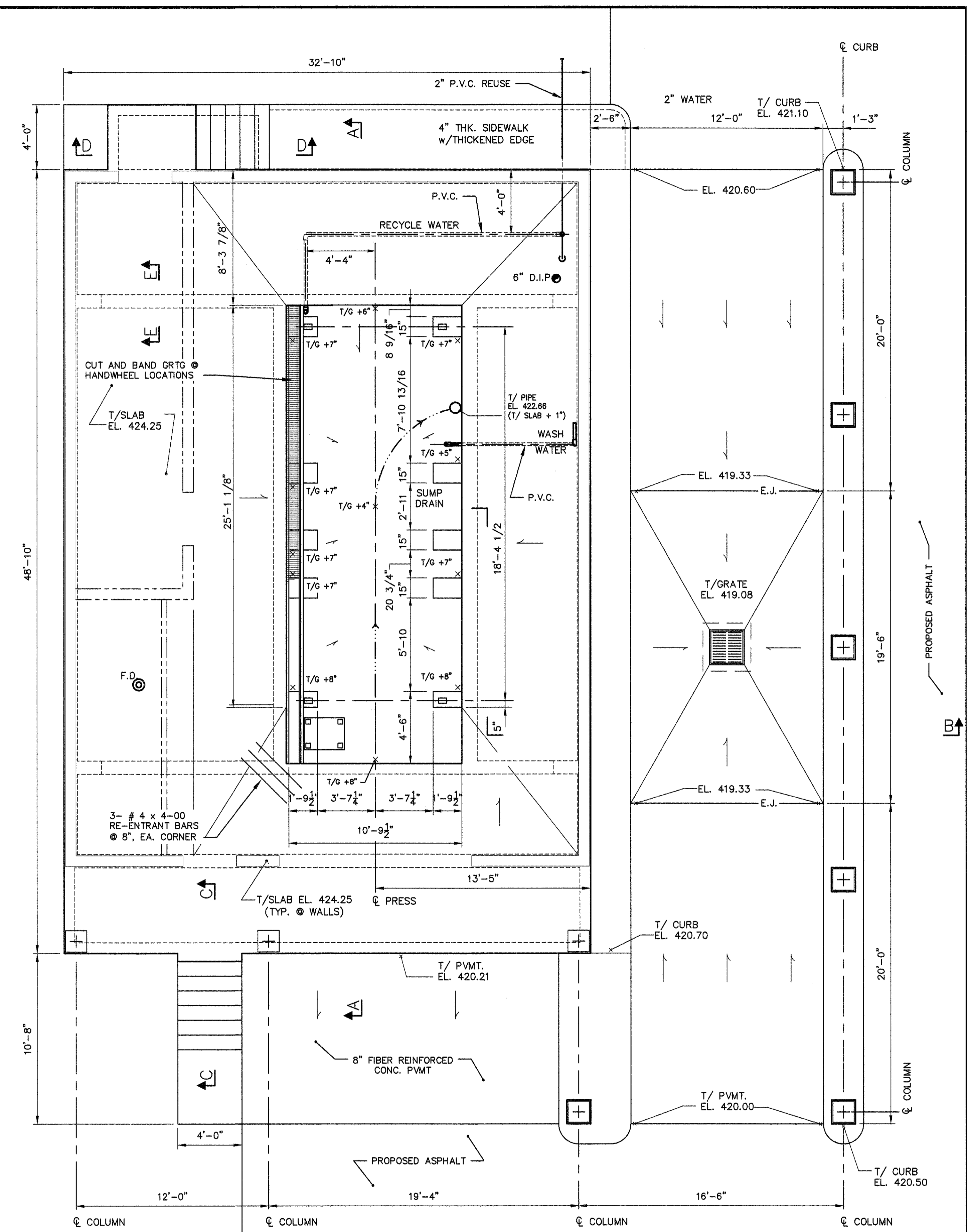
FOUNDATION PLAN

SCALE: 1/4" = 1'-0"



SECTION E-E

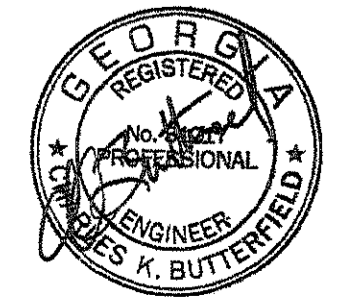
SCALE: 1/2" = 1'-0"



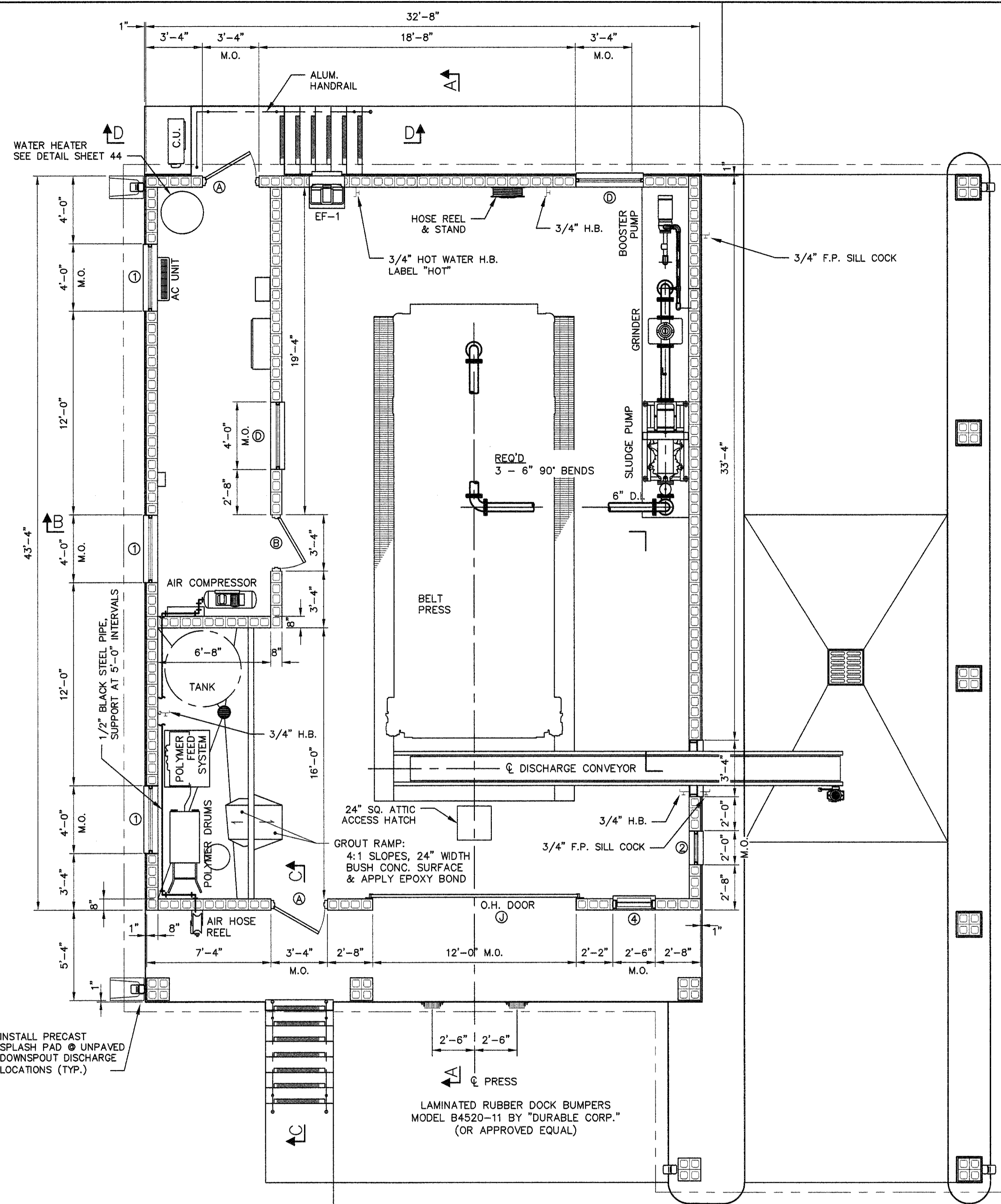
STRUCTURAL FLOOR PLAN

SCALE: 1/4" = 1'-0"

- NOTES:
1. ALL UNDER FLOOR PIPING SHALL BE D.I.P.
 2. WASHWATER BOOSTER PUMP SUCTION AND DISCHARGE PIPING SHALL BE INSTALLED BENEATH THE SLAB.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II SLUDGE DEWATERING BUILDING FOUNDATION & STRUCTURAL FLOOR PLAN	
04/2017		DRAWN	CHECKED
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i> ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 34 OF 77

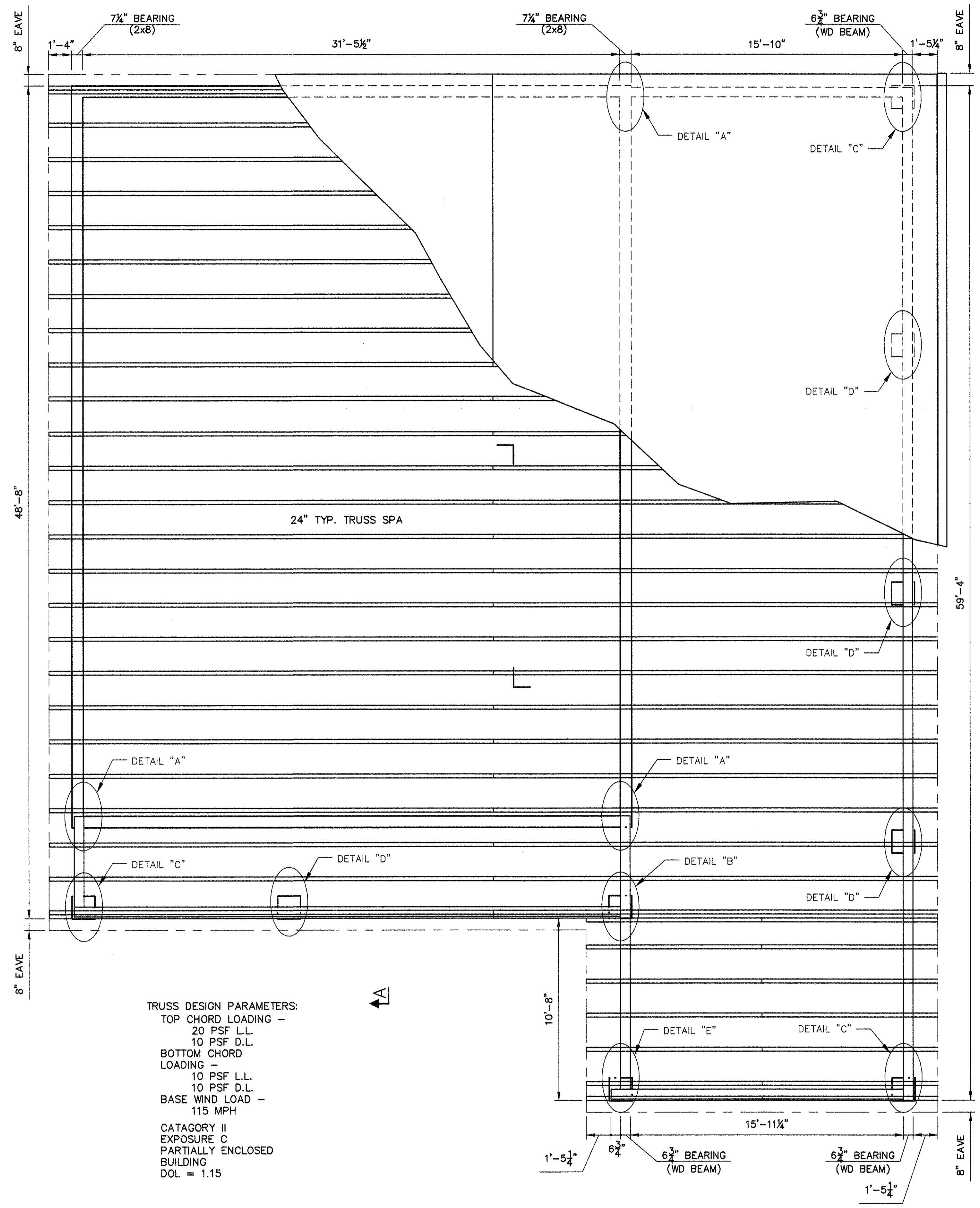


MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

ROOM FINISH SCHEDULE

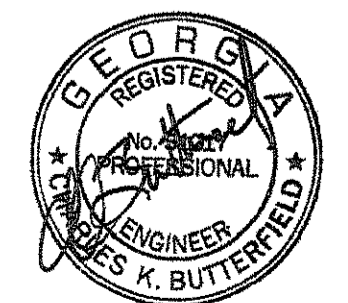
SURFACE	FINISH	PIPING, SIDING, SOFFIT, FASCIA	PAINT
FLOORS	LT BROOM WITH TNEMEC CT DENSIFIER (2 COATS)		
POLYMER AREA FLOOR	TNEMEC 161, 2 COATS, ACID ETCH CONCRETE, THIN FIRST COAT	PRESS ROOM CEILING	PREFINISHED ALUMINUM
INTERIOR WALLS	PAINT	LOADING DOCK CEILING	PREFINISHED ALUMINUM
EXTERIOR WALLS	UNPAINTED, COLORED SPLIT FACE CMU W/ COLOR GROUT, REPELLENT BARRIER, CHEMPROBE OR EQUAL	CONTAINER BAY CEILING	PREFINISHED ALUMINUM
		ELECTRICAL ROOM CEILING	PAINT

NOTE:
TYP. FRAME SPACING SHALL BE 24" c/c.

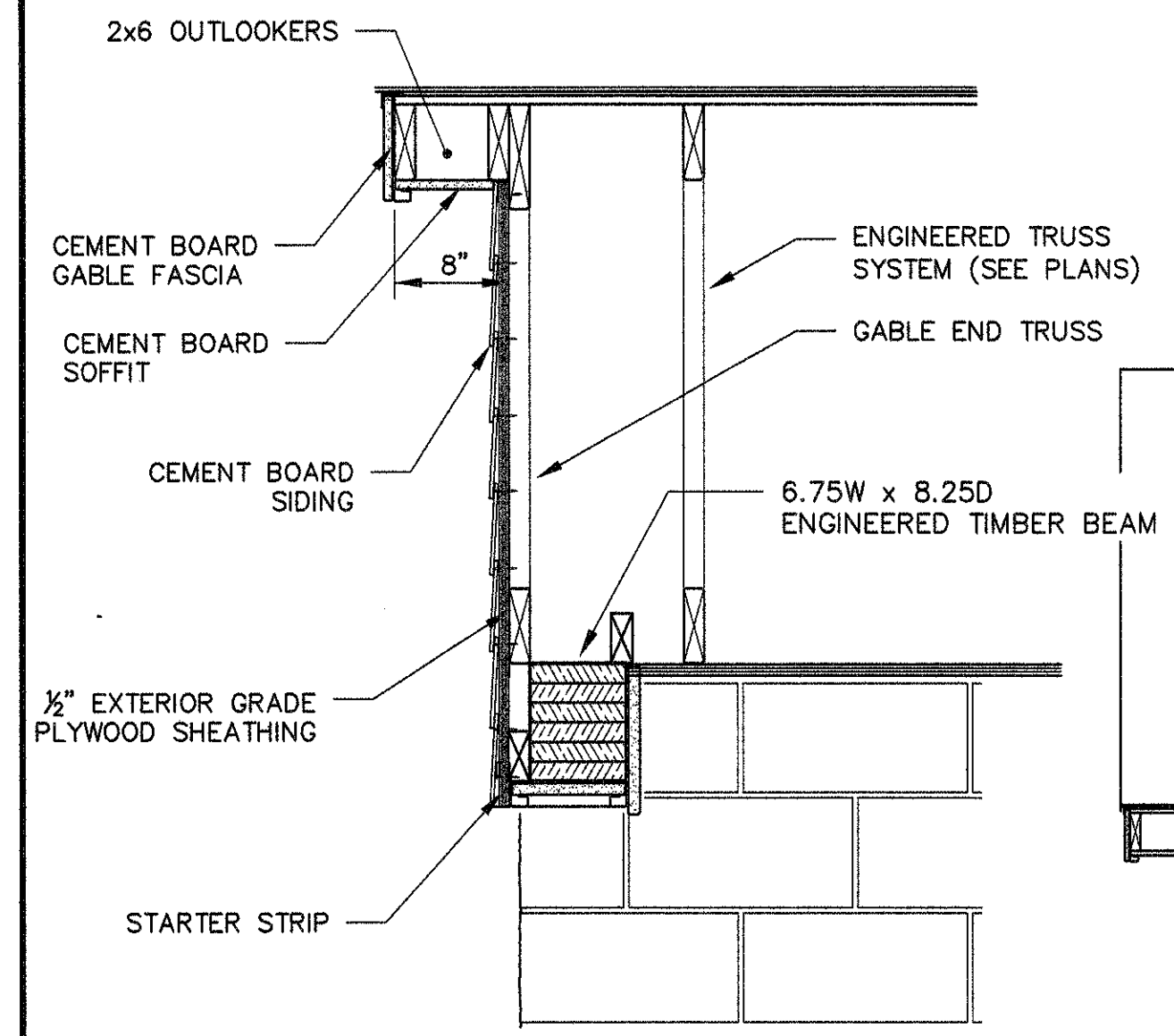


TRUSS DESIGN PARAMETERS:
 TOP CHORD LOADING -
 20 PSF L.L.
 10 PSF D.L.
 BOTTOM CHORD LOADING -
 10 PSF L.L.
 10 PSF D.L.
 BASE WIND LOAD -
 115 MPH
 CATEGORY II
 EXPOSURE C
 PARTIALLY ENCLOSED BUILDING
 DOL = 1.15

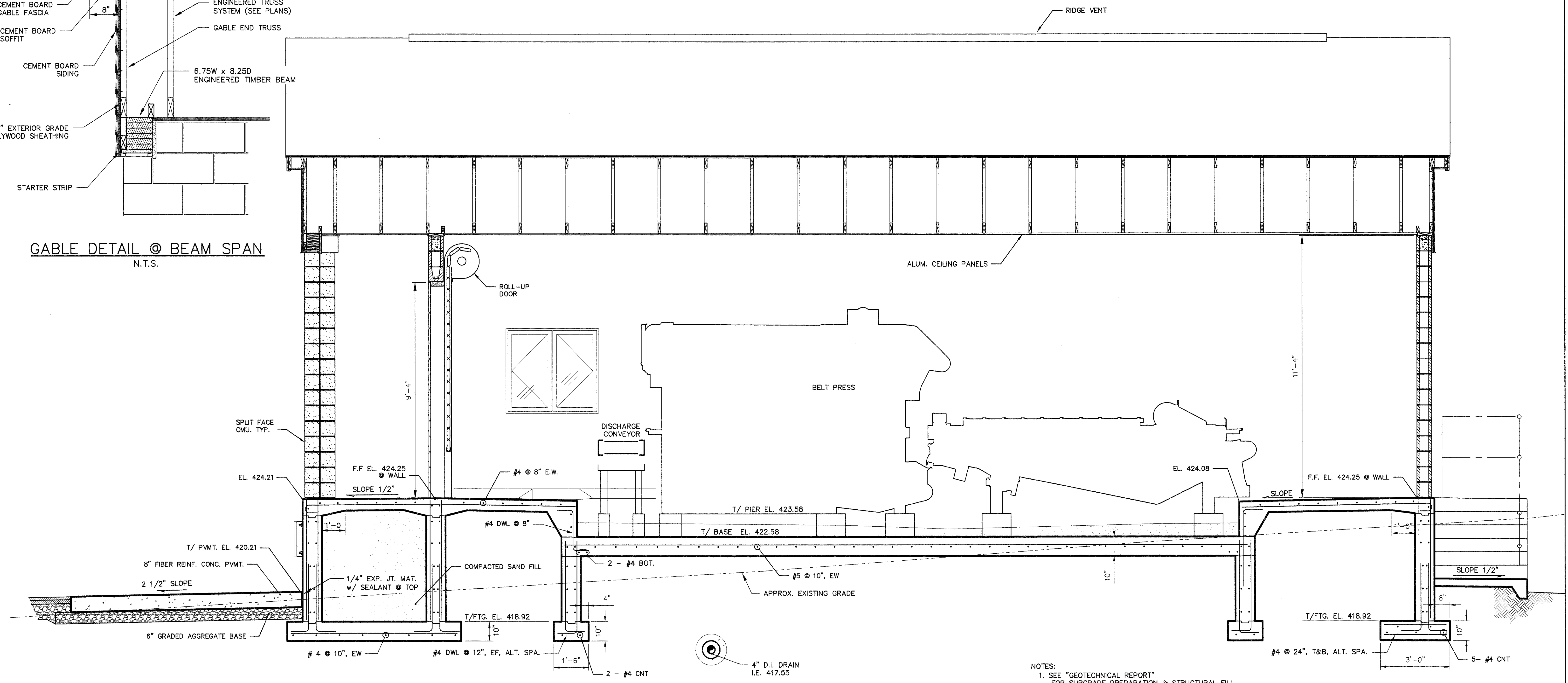
ROOF PLAN
SCALE: 1/4" = 1'-0"



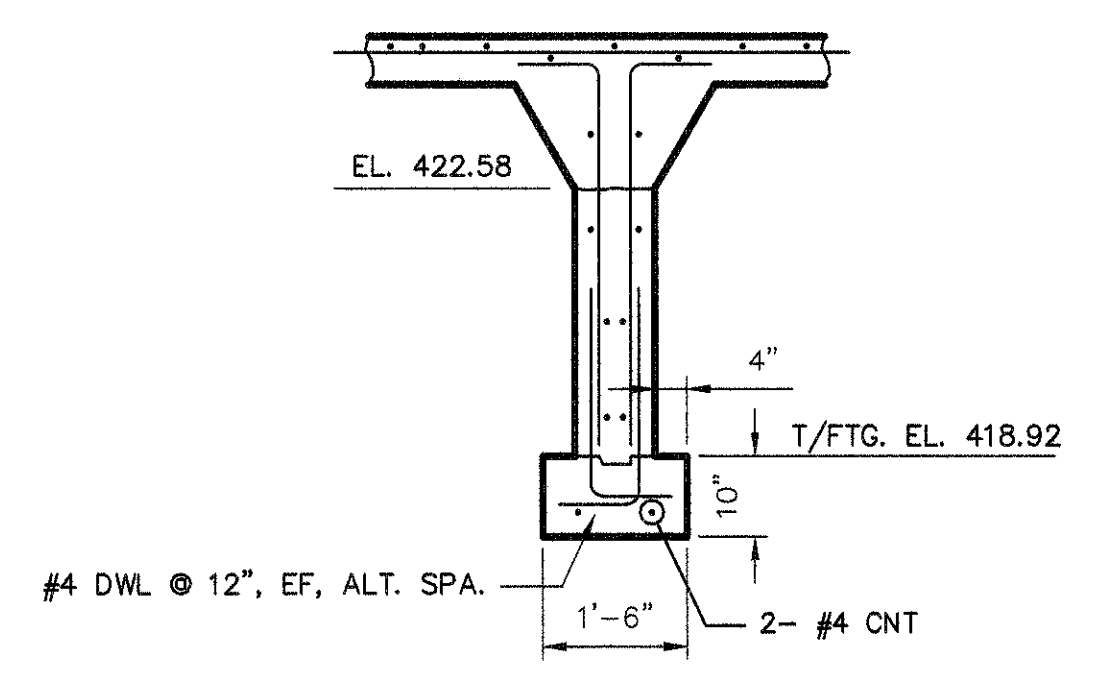
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SLUDGE DEWATERING BUILDING MECHANICAL FLOOR PLAN & ROOF PLAN	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 35 OF 77	



GABLE DETAIL @ BEAM SPAN
N.T.S.



SECTION A-A
SCALE: 1/2" = 1'-0"



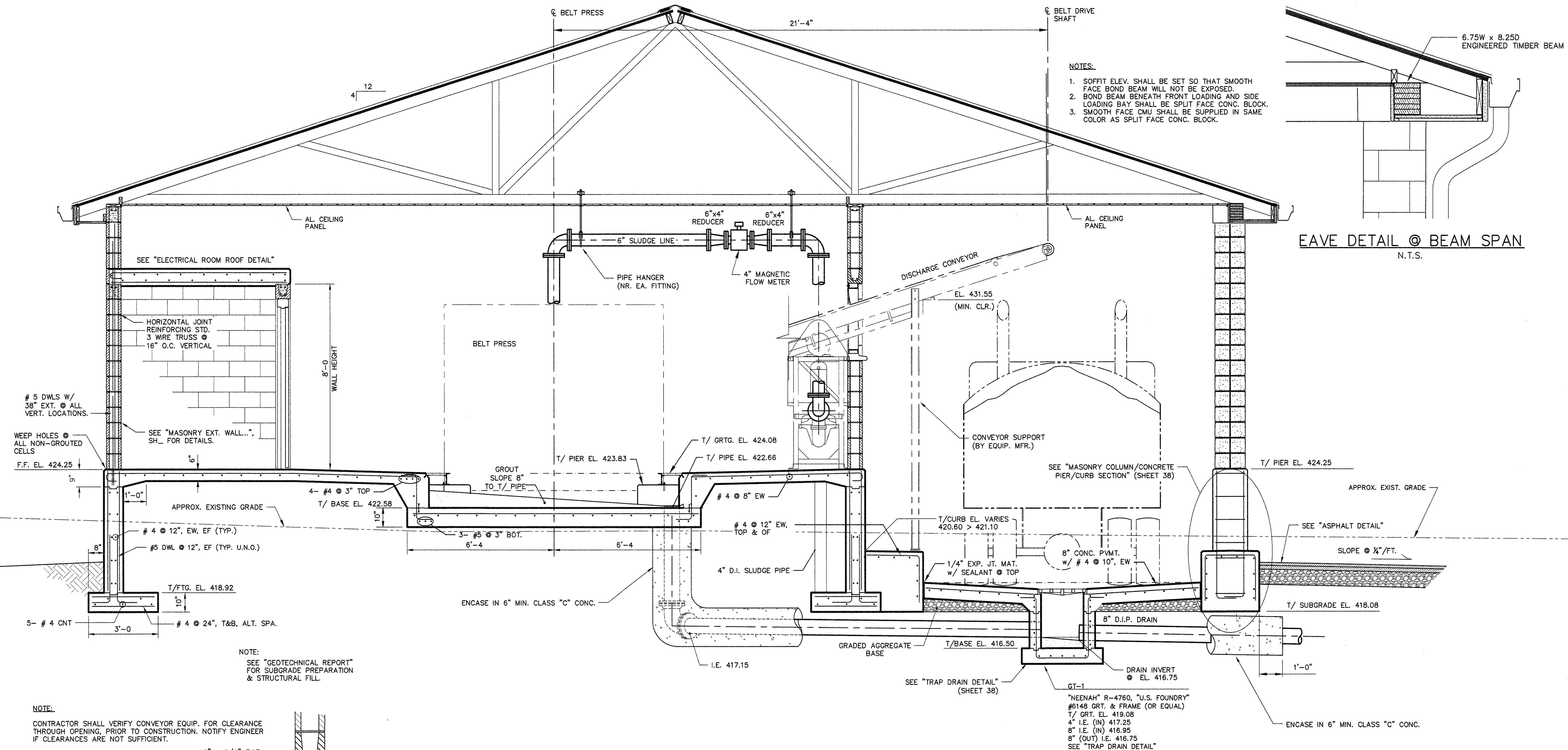
SECTION E-E
SCALE: 1/2" = 1'-0"

- NOTES:
1. SEE "GEO TECHNICAL REPORT" FOR SUBGRADE PREPARATION & STRUCTURAL FILL.
 2. FOUNDATION WALL SHALL BE TEMPORARILY SHORED UNTIL FLOOR SLAB IS IN PLACE.

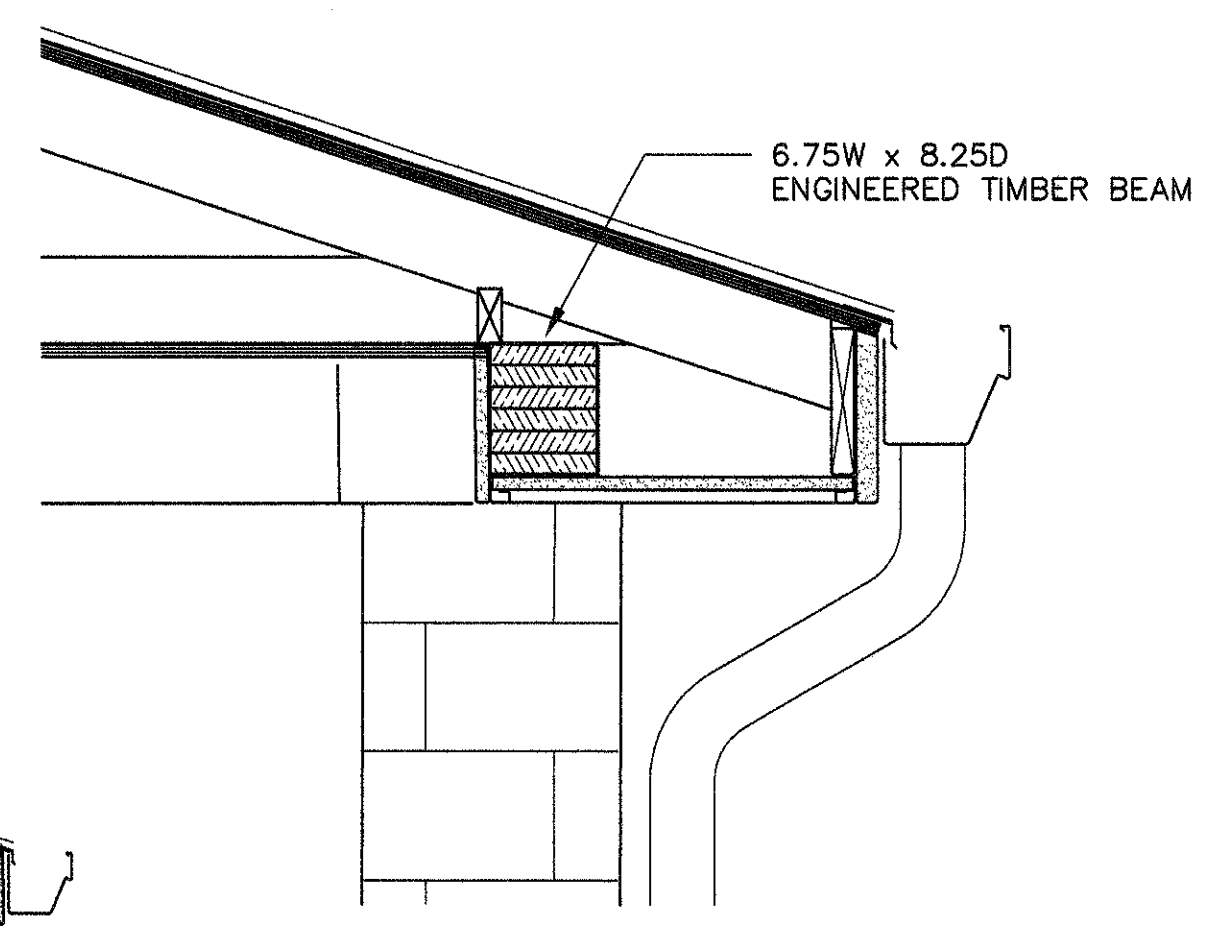


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SLUDGE DEWATERING BUILDING SECTIONS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 36 OF 77	

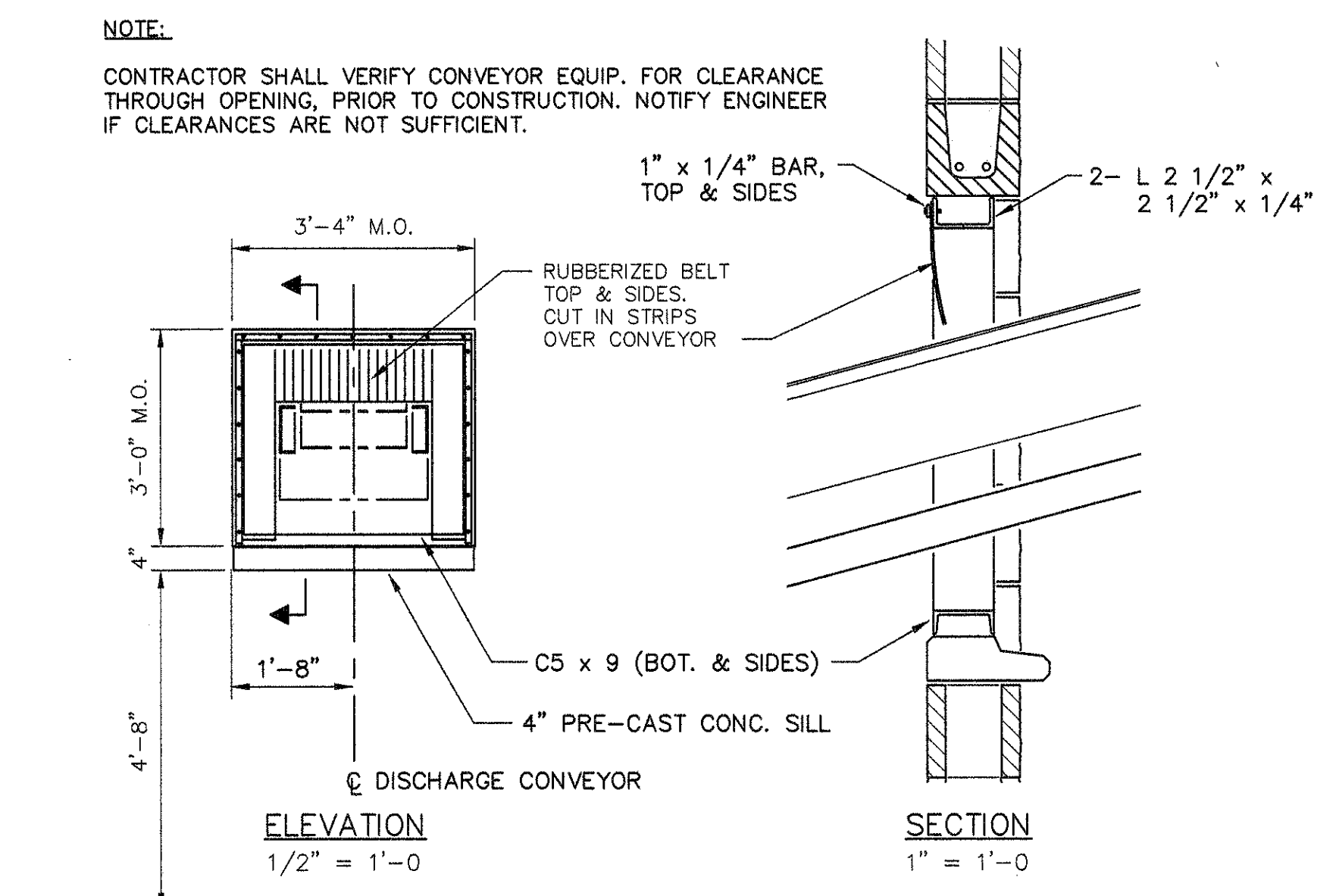
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- NOTES:
1. SOFFIT ELEV. SHALL BE SET SO THAT SMOOTH FACE BOND BEAM WILL NOT BE EXPOSED.
 2. BOND BEAM BENEATH FRONT LOADING AND SIDE LOADING BAY SHALL BE SPLIT FACE CONC. BLOCK.
 3. SMOOTH FACE CMU SHALL BE SUPPLIED IN SAME COLOR AS SPLIT FACE CONC. BLOCK.



EAVE DETAIL @ BEAM SPAN
N.T.S.

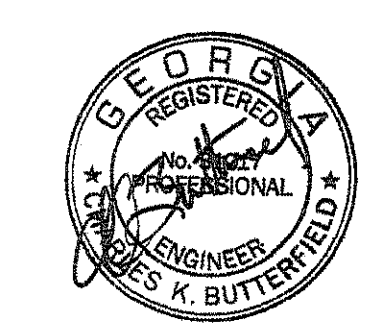


DISCHARGE CONVEYER OPENING
SCALE: 1/2" = 1'-0"

SECTION B-B
SCALE: 1/2" = 1'-0"

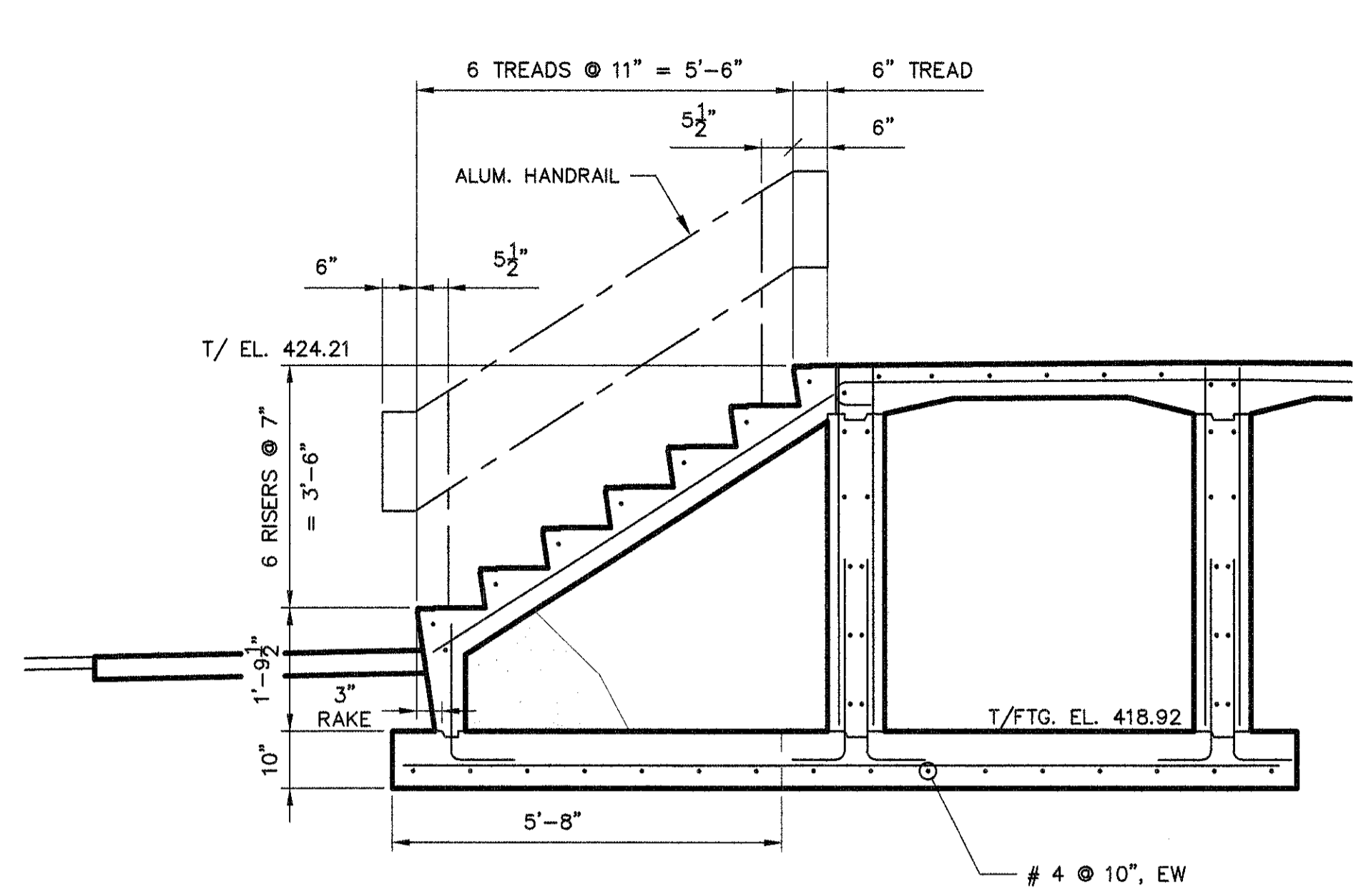
NOTE:
SEE "GEOTECHNICAL REPORT"
FOR SUBGRADE PREPARATION
& STRUCTURAL FILL.

NOTE:
CONTRACTOR SHALL VERIFY CONVEYOR EQUIP. FOR CLEARANCE
THROUGH OPENING, PRIOR TO CONSTRUCTION. NOTIFY ENGINEER
IF CLEARANCES ARE NOT SUFFICIENT.

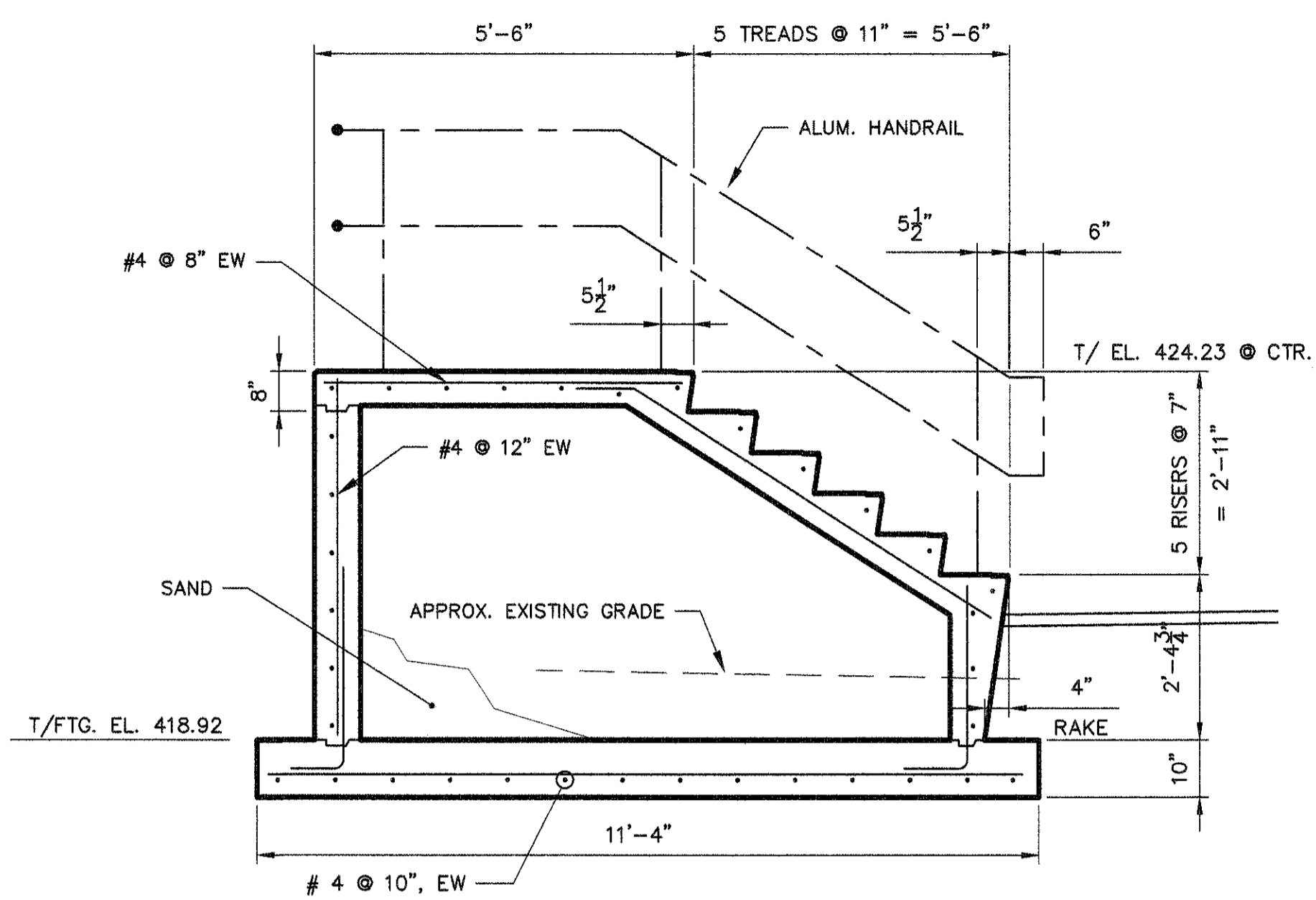


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SLUDGE DEWATERING BUILDING SECTIONS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 37 OF 77

BUTTERFIELD
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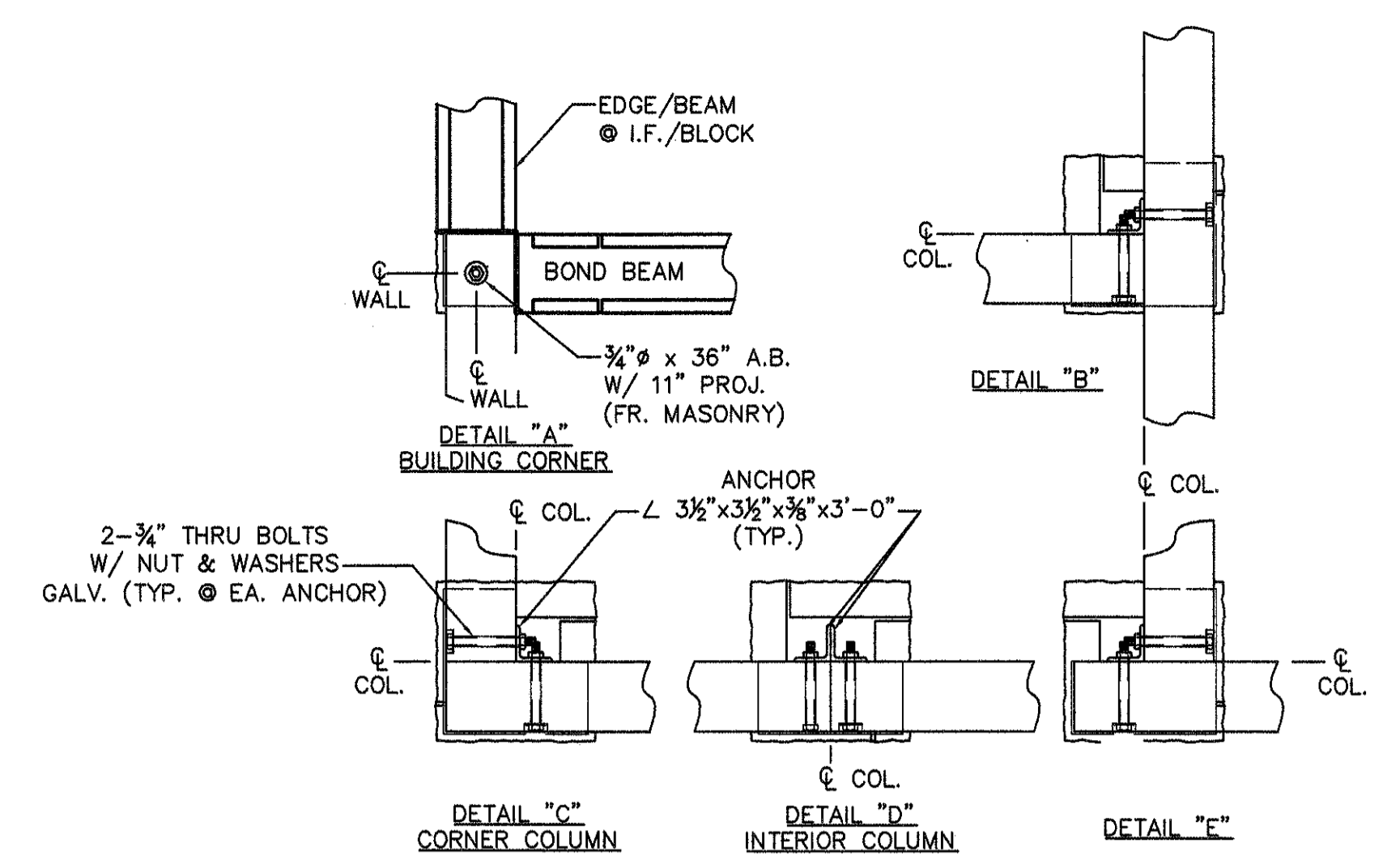


DOCK STAIR DETAIL SECTION C-C
SCALE: 1/2" = 1'-0"

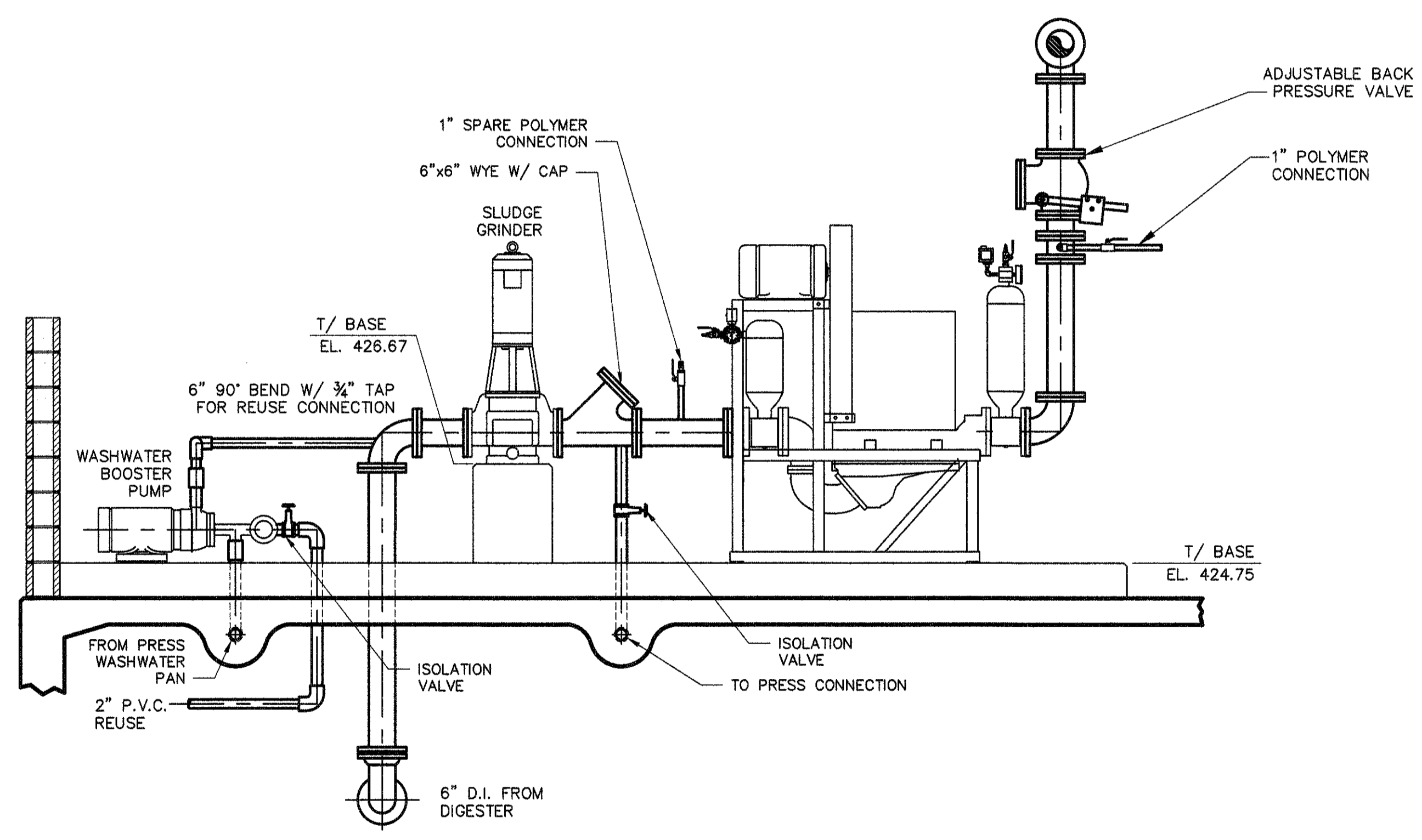


SECTION D-D
SCALE: 1/2" = 1'-0"

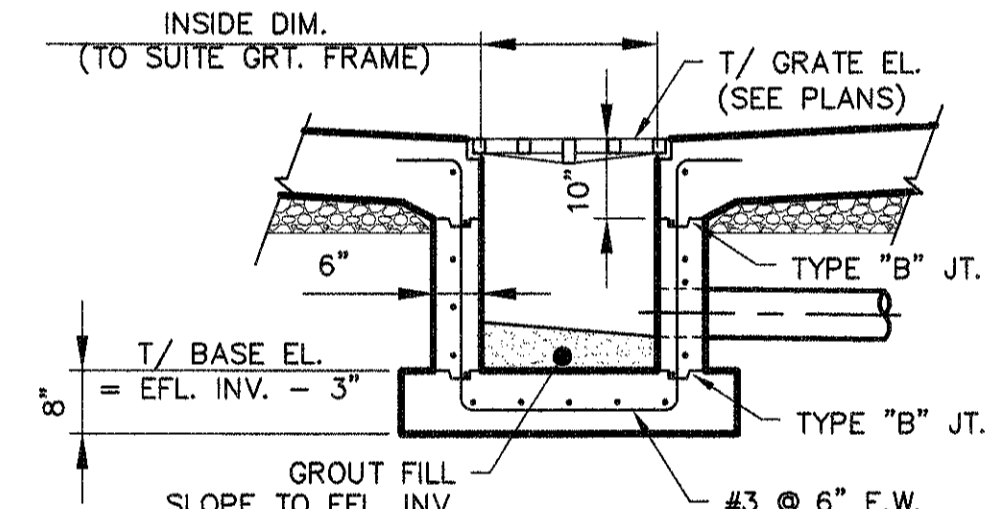
NOTE: SEE "TYP." STAIR DETAIL SHT 66 FOR ADDITIONAL DETAILS



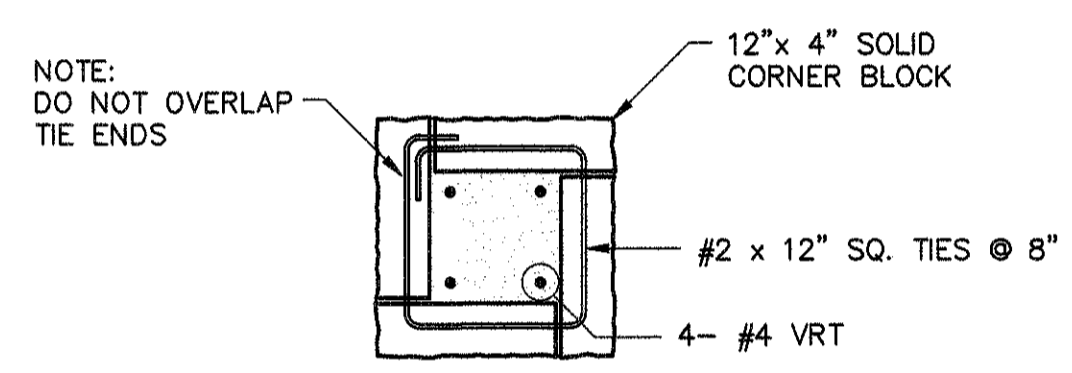
HEADER BEAM BEARING DETAILS
SCALE: 1" = 1'-0"



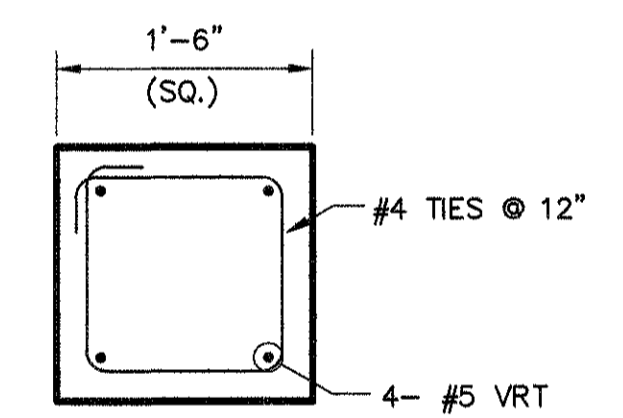
ACCESSORY EQUIPMENT ELEVATION
SCALE: 1/2" = 1'-0"



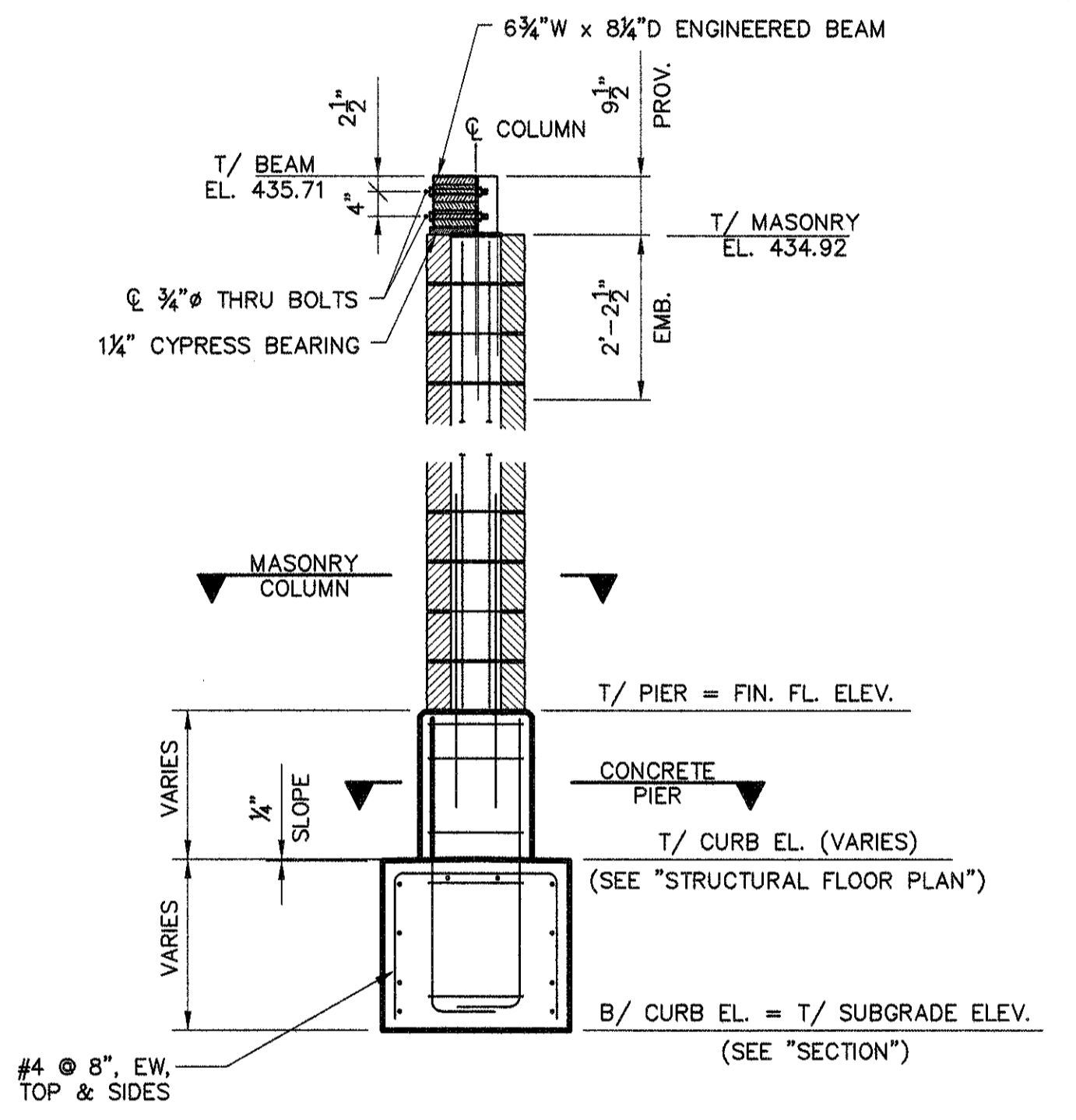
TRAP DRAIN DETAIL
N.T.S.



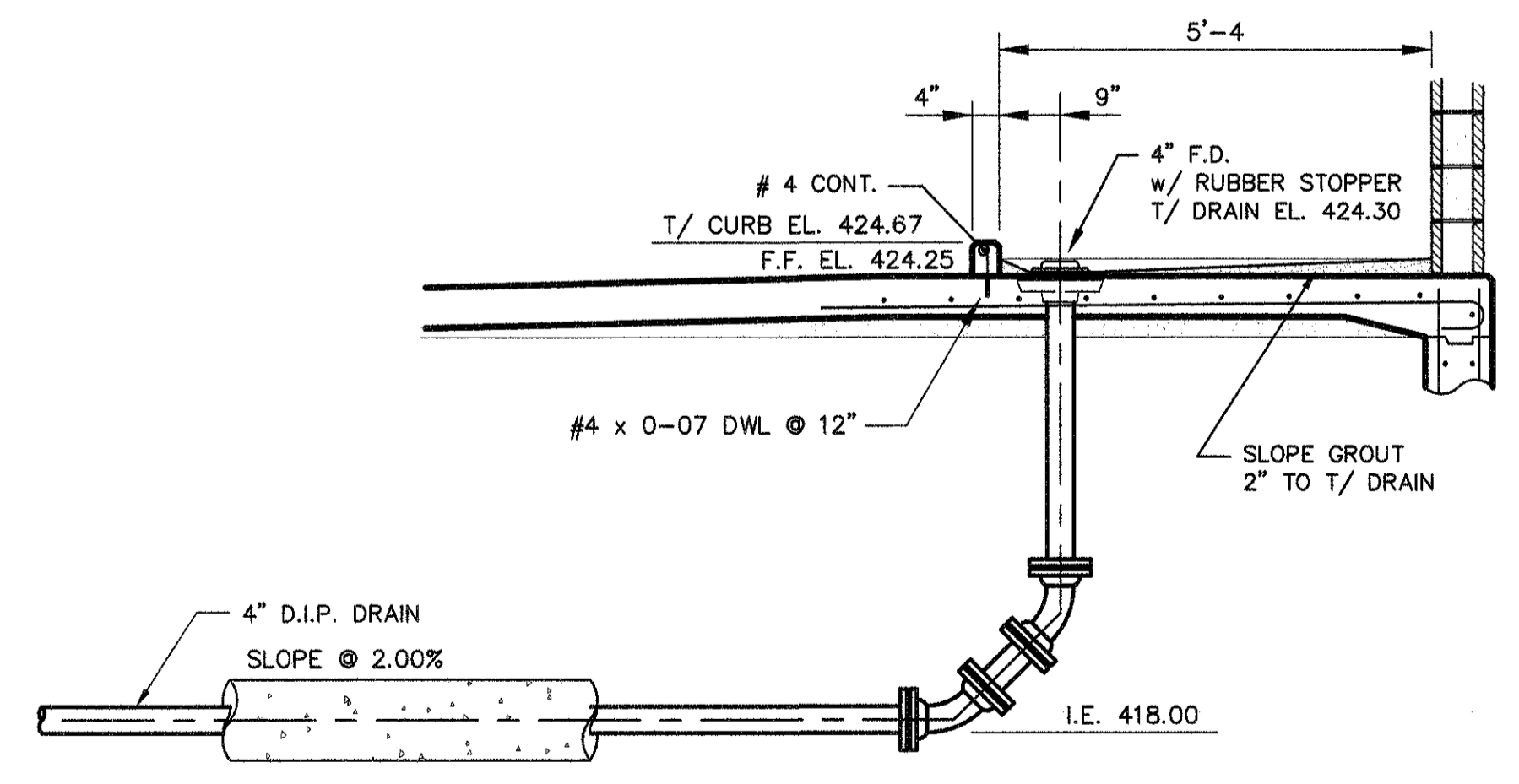
MASONRY COLUMN SECTION
SCALE: N.T.S.



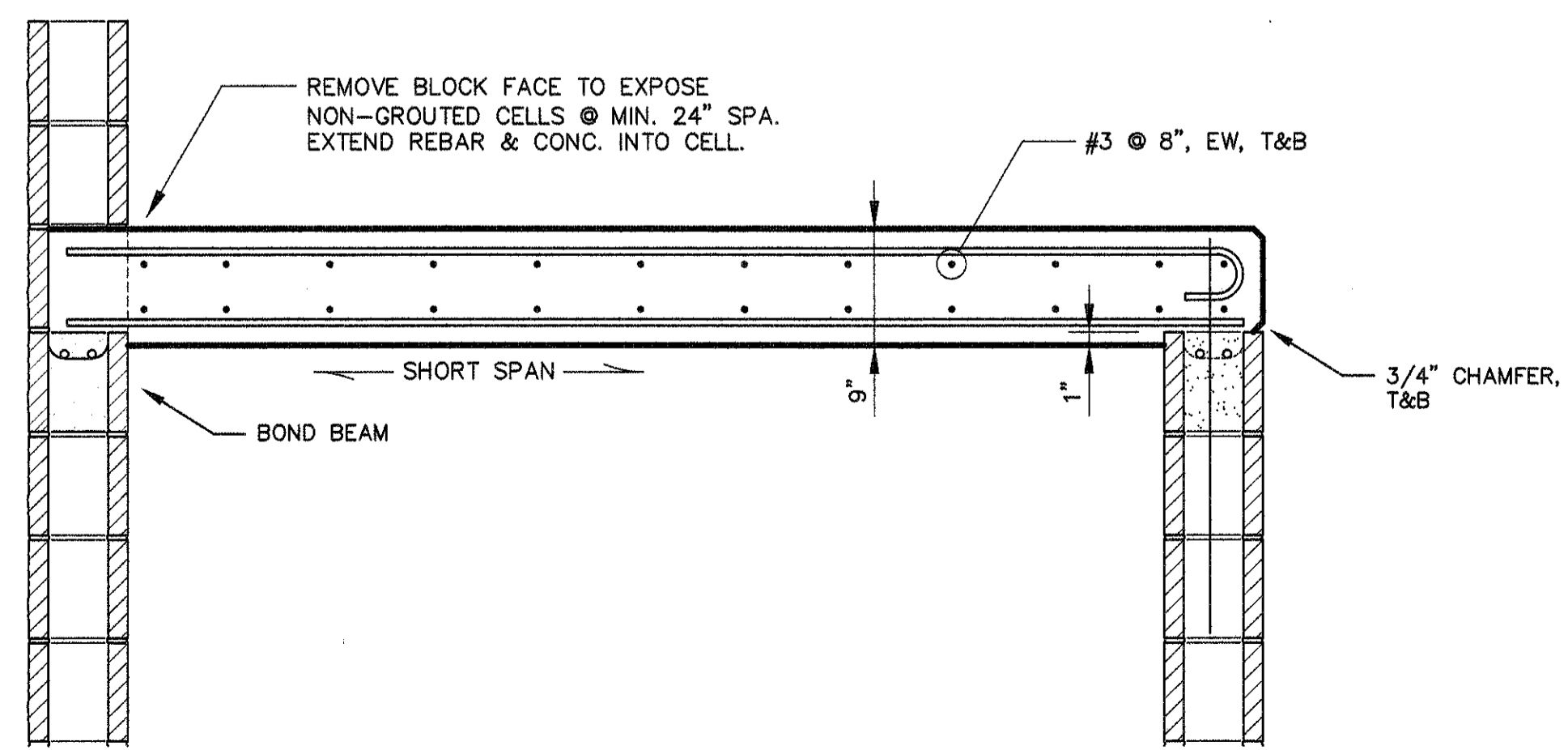
CONCRETE PIER SECTION
SCALE: N.T.S.



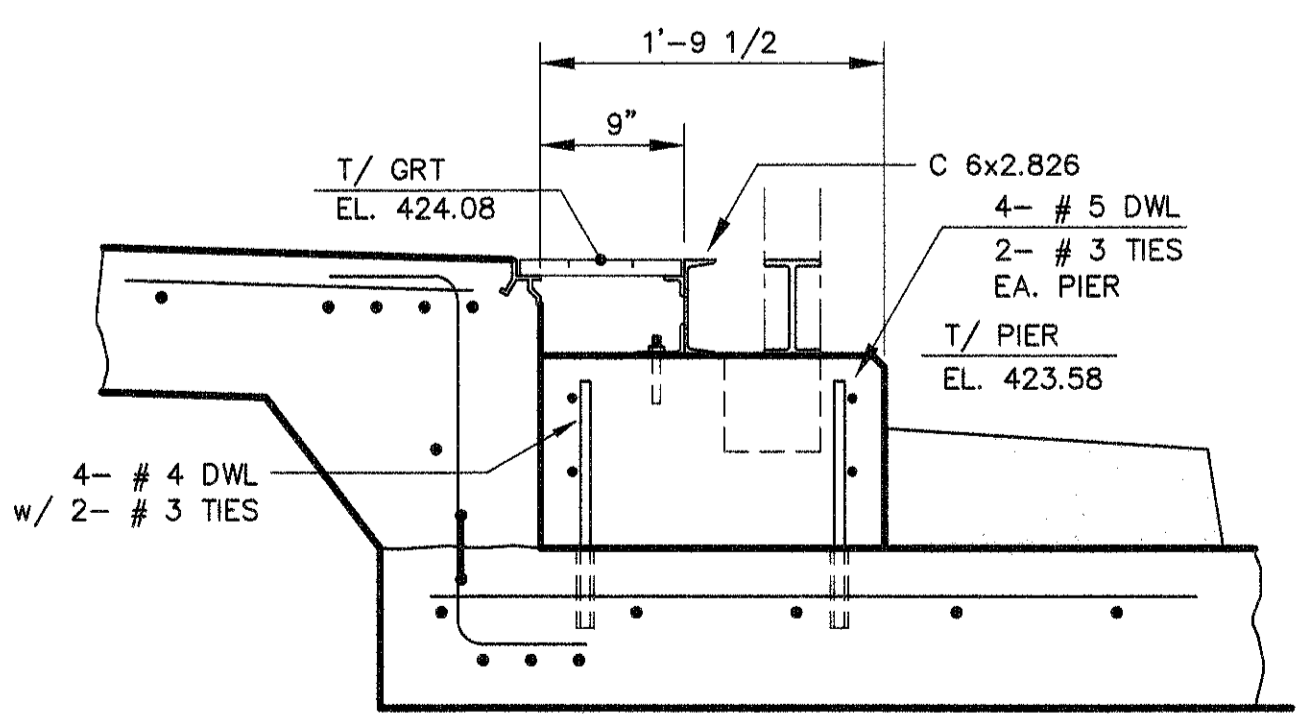
MASONRY COLUMN/ CONCRETE PIER/ CURB SECTION
N.T.S.



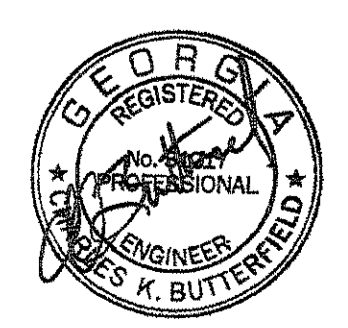
POLYMER CONTAINMENT AREA SECTION
SCALE: 1/2" = 1'-0"



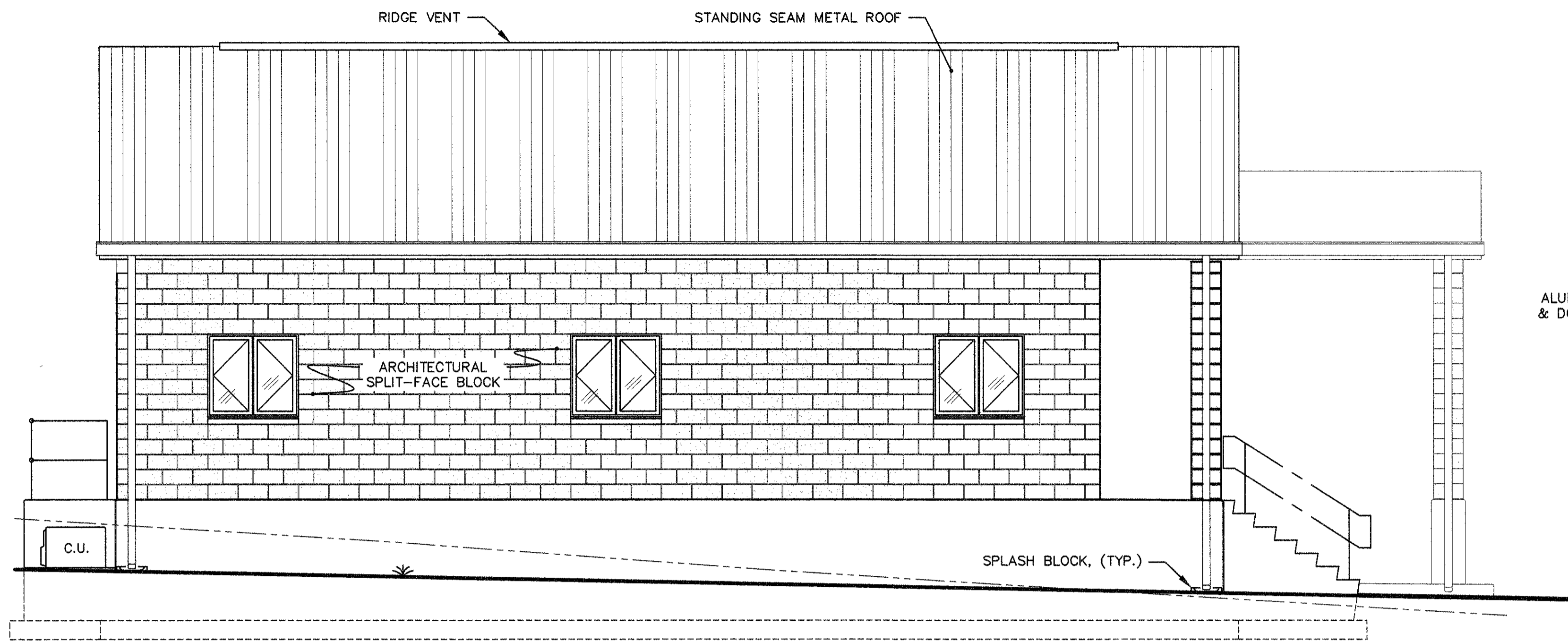
ELECTRICAL ROOM ROOF DETAIL
SCALE: 1" = 1'-0"



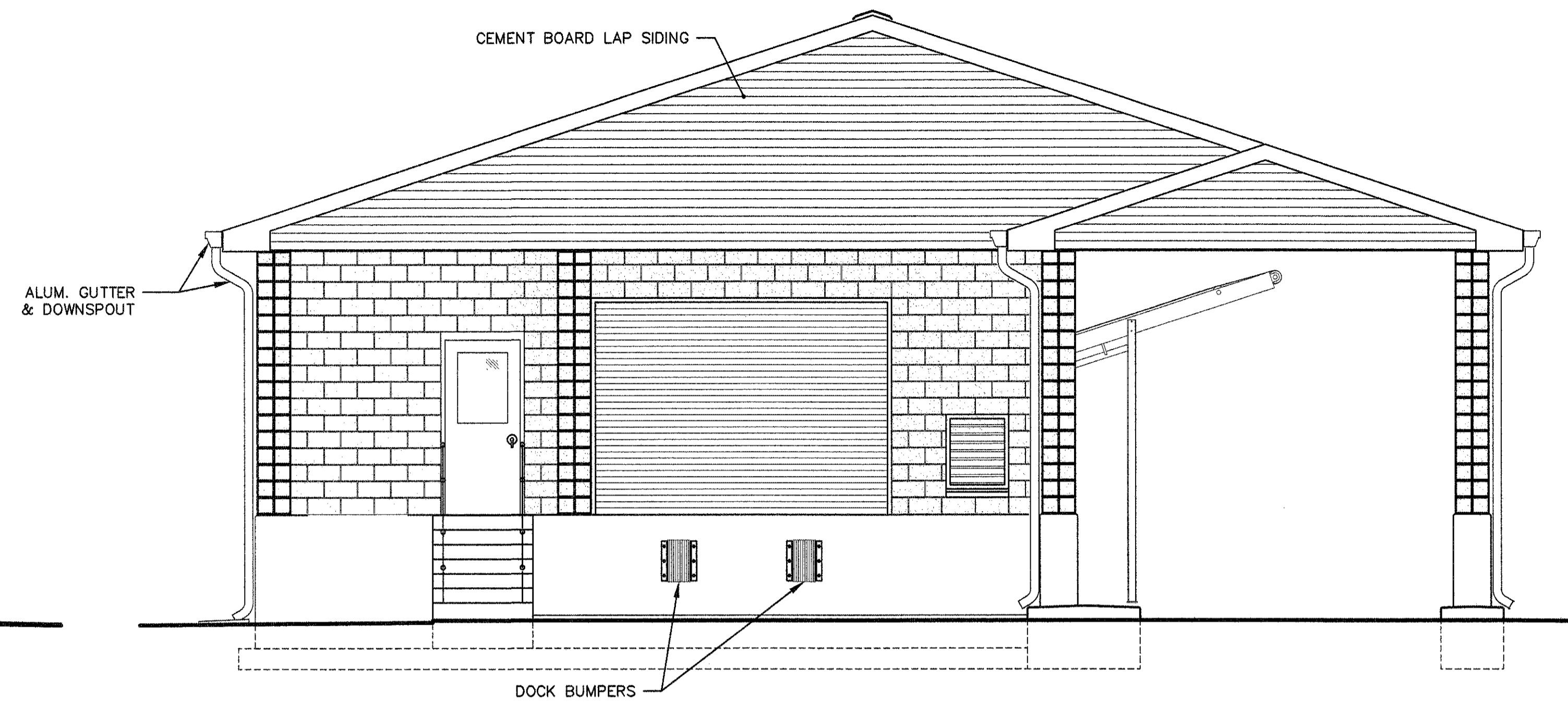
TYP. GRATING & MACHINE PIER SECTION
SCALE: 1" = 1'-0"



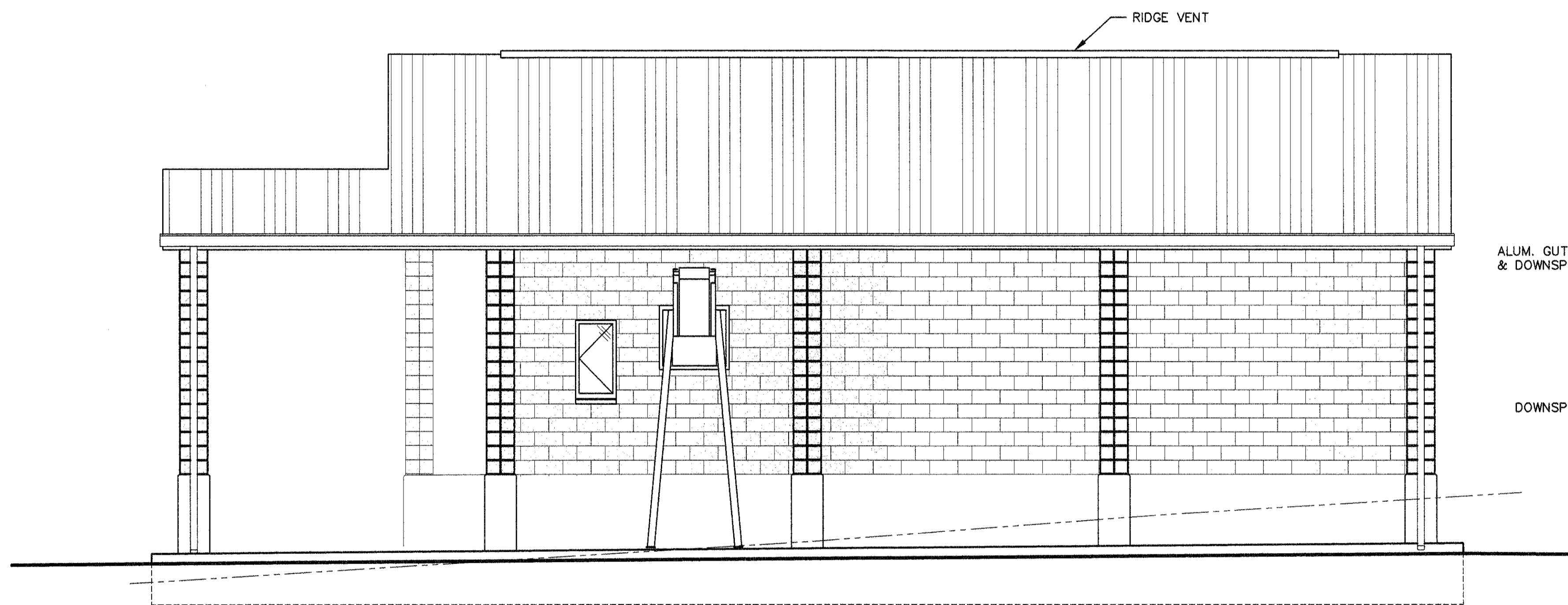
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		SLUDGE DEWATERING BUILDING SECTIONS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 38 OF 77



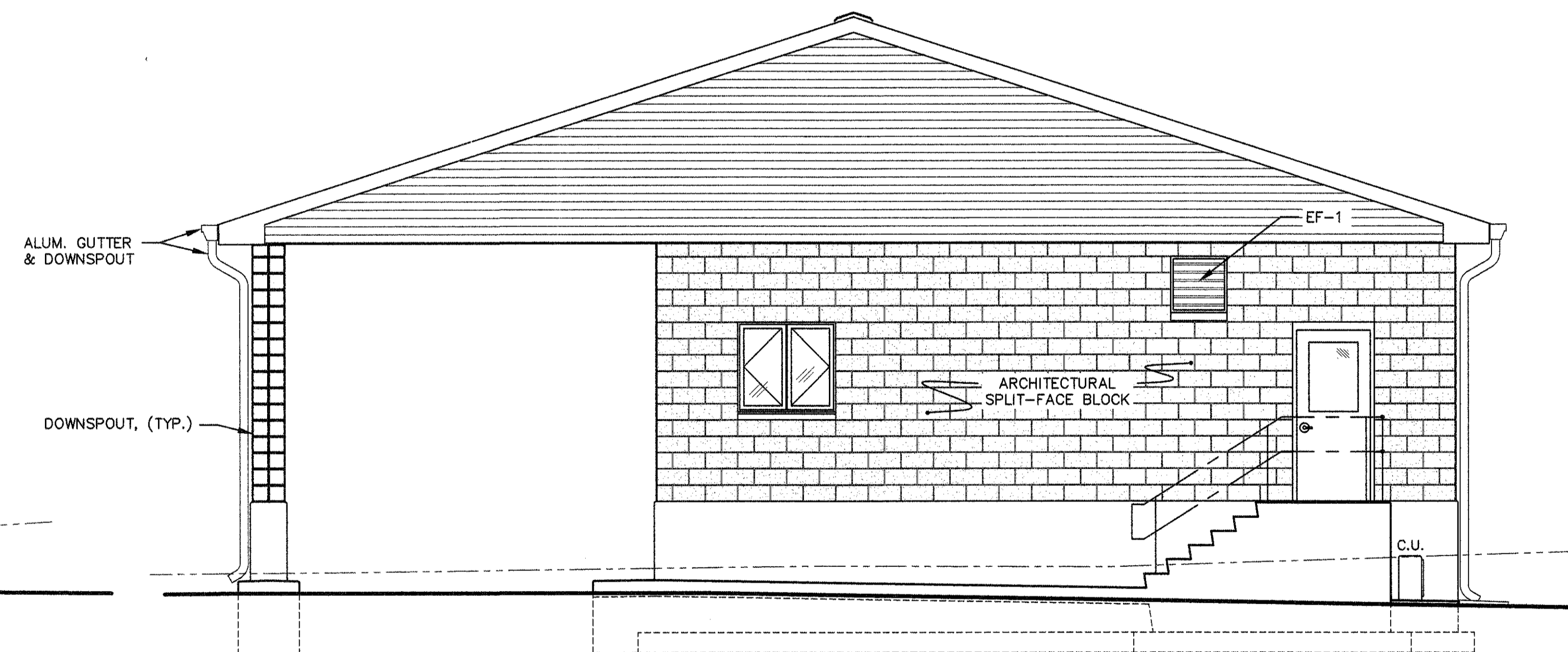
RIGHT



FRONT



LEFT



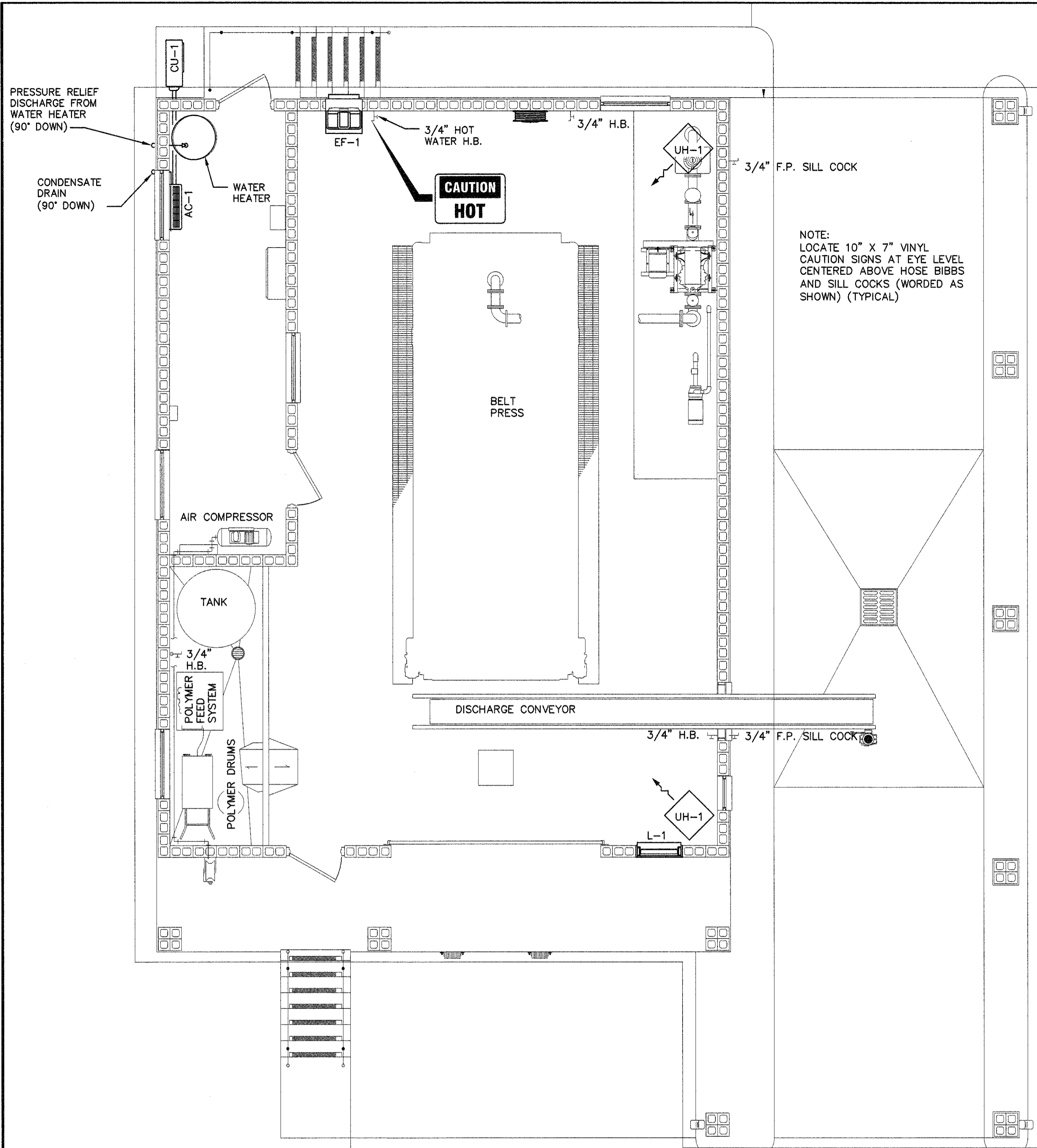
REAR

ELEVATIONS
SCALE: 1/4" = 1'-0"

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REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SLUDGE DEWATERING BUILDING ELEVATIONS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 39 OF 77	



HVAC PLAN
SCALE: 1/2" = 1'-0"

HVAC SCHEDULE				
MARK	QTY.	MANUFACTURE PRODUCT NO.	DESCRIPTION	ACCESSORIES
EF-1	1	AEROVENT AHAB 18	FIBERGLASS WALL EXHAUST FAN 2,869 CFM @ 0.25 SP 3/4HP, 115V, 1Ø	FAN HOUSING W/ BRID SCREEN, ALUMINUM FIXED LOUVER, AND BACKDRAFT DAMPER, DISCONNECT SWITCH, THERMOSTAT W/ VASRI-SPEED CONTROL
L-1	1	UNITED ENERTECH: CFL-D-6	30" x 36" ELECTRICALLY ACTUATED LOUVER	WALL MOUNT BRACKET, LIMIT SWITCH, ELECTRIC DAMPER ACTUATOR, INSECT SCREEN
UH-1	2	REDD-I: 43WD10T01	WASHDOWN UNIT HEATER 10KW 480V 3Ø	WALL MOUNT BRACKET, THERMOSTAT, DISCONNECT SWITCH
AHU-1	1	LG: LSN120HSV4	HIGH MOUNT, CARTRIDGE HEAT PUMP 120V 1Ø	
CU-1	1	LG: LSU120HSV4	HEAT PUMP CONDENSING UNIT, 11.2 MBH COOL, 13.3 MBH HEAT 230V 1Ø	CONCRETE PAD, SIGHT GLASS FILTER DRYER

FAN NOTES:

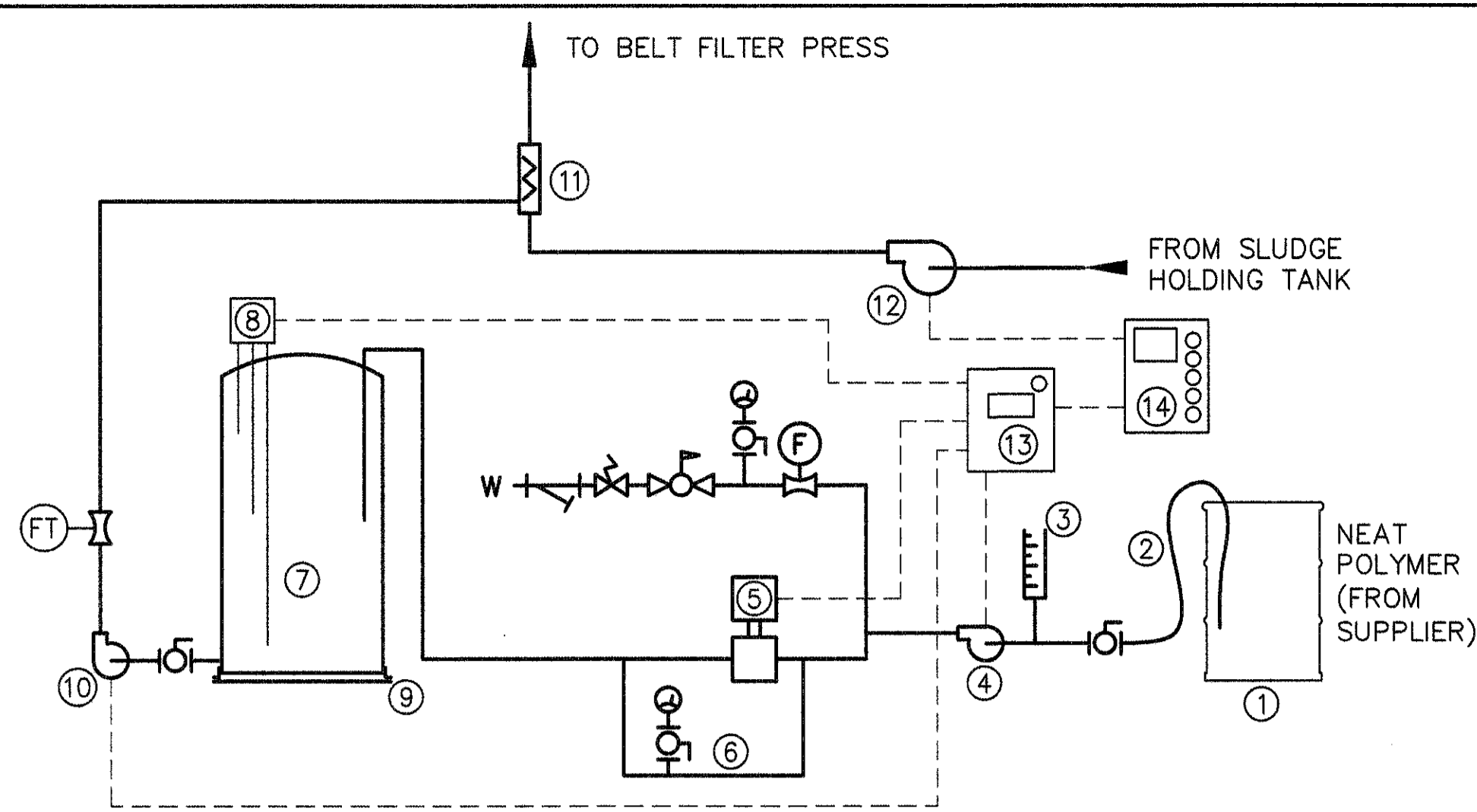
- EXHAUST FAN TO BE FURNISHED WITH LINE VOLTAGE THERMOSTAT AND DISCONNECT SWITCH.
- FACTORY APPLIED CORROSION RESISTANT COATING SUITABLE FOR USE IN CHEMICAL ROOMS SHALL BE APPLIED TO VENTILATION EQUIPMENT.

LOUVER NOTES:

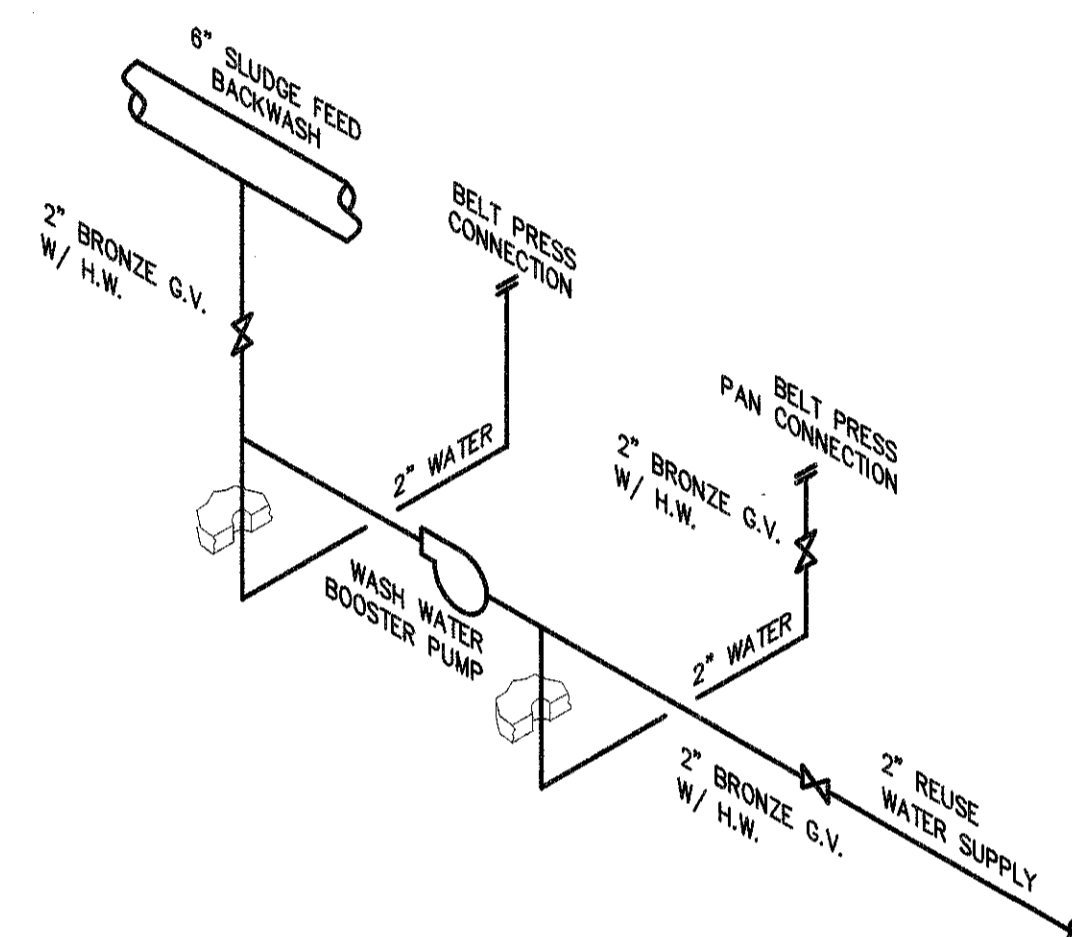
- LOUVER TO BE ACTIVATED BY WALL MOUNTED THERMOSTAT. EXHAUST FAN TO BE ACTIVATED BY LIMIT SWITCH ON LOUVER.
- LOUVER TO BE EQUIPPED WITH EXTERIOR INSECT SCREEN AND FACTORY APPLIED CORROSION RESISTANT COATING.

HVAC NOTES:

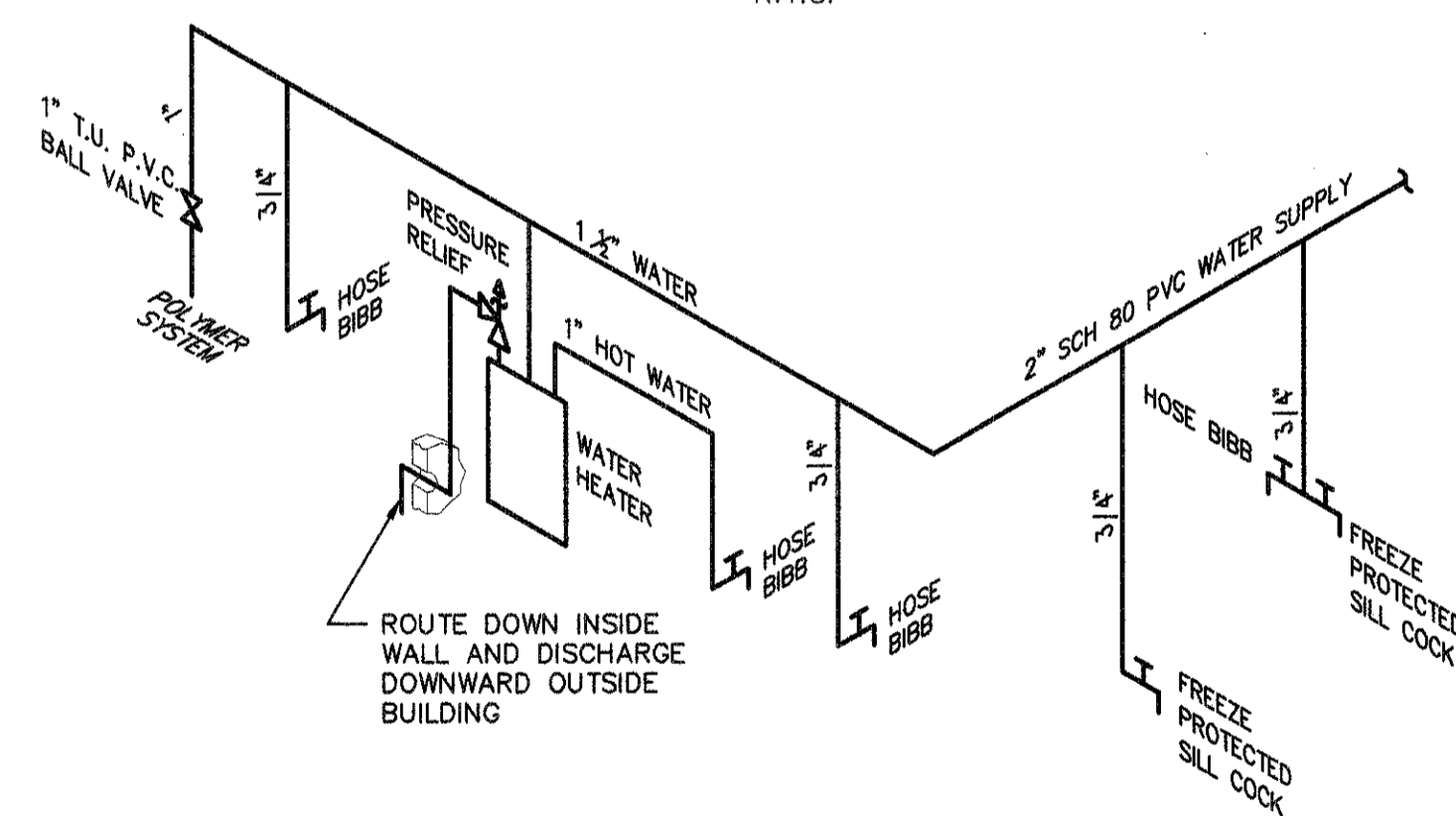
- ALL HVAC EQUIPMENT IN BELT PRESS ROOM TO BE CORROSION RESISTANT.
- ALL SWITCHES, THERMOSTATS, ETC. IN BELT PRESS ROOM TO BE WATERTIGHT



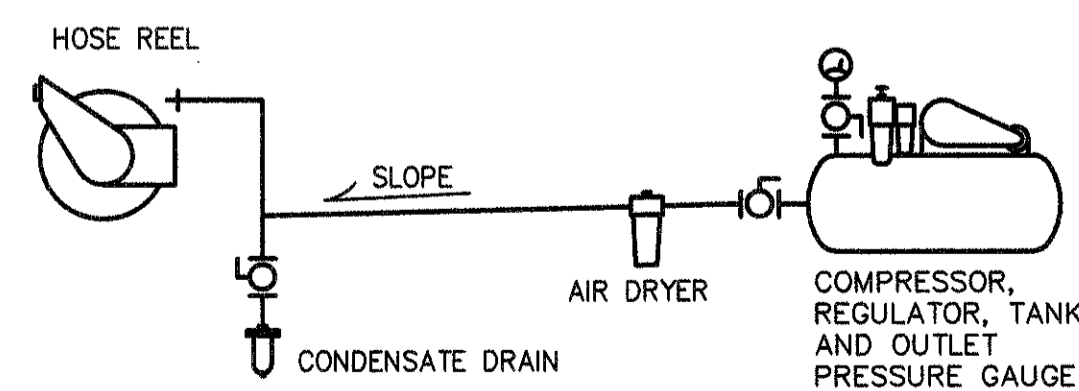
POLYMER SYSTEM SCHEMATIC
N.T.S.



REUSE WATER RISER DIAGRAM
N.T.S.



POTABLE WATER RISER DIAGRAM
N.T.S.



COMPRESSED AIR DIAGRAM
N.T.S.

LEGEND

- POLYMER SUPPLY (FROM SUPPLIER)
- SUCTION HOSE
- CALIBRATION COLUMN
- POLYMER TRANSFER PUMP
- DYNAMIC MIXER
- RECIRCULATION
- POLYETHYLENE TANK
- LEVEL CONTROL SYSTEM
- TANK TIE DOWN KIT
- POLYMER PUMP
- SLUDGE BLENDER
- SLUDGE PUMP
- POLYMER SYSTEM CONTROL PANEL
- BELT FILTER PRESS CONTROL PANEL

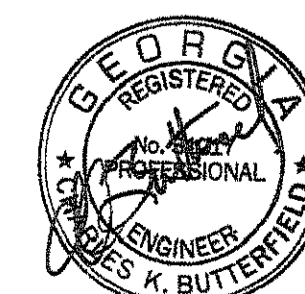
ABBREVIATIONS:

- | | |
|--------|----------------------------|
| ASPH. | ASPHALT |
| CMP | CORRUGATED METAL PIPE |
| CONC. | CONCRETE |
| DR. | DRIVE |
| EOP | EDGE OF PAVEMENT |
| EXIST. | EXISTING |
| F.O.C. | FIBER OPTIC CABLE |
| F.P. | FREEZE PROTECTED |
| GRAV. | GRAVEL |
| IPF | IRON PIN FOUND |
| MON. | MONUMENT |
| NGS | NATIONAL GEOLOGICAL SURVEY |
| PP | POWER POLE |
| RCP | REINFORCED CONCRETE PIPE |
| RW | RIGHT OF WAY |
| SAN | SANITARY |
| SEW | SEWER |
| SR | STATE ROUTE |
| SSMH | SANITARY SEWER MANHOLE |
| STA. | STATION |
| STMH | STORM SEWER MANHOLE |
| SW | SIDEWALK |
| TJB | TELEPHONE JUNCTION BOX |
| W.L. | WATERLINE |

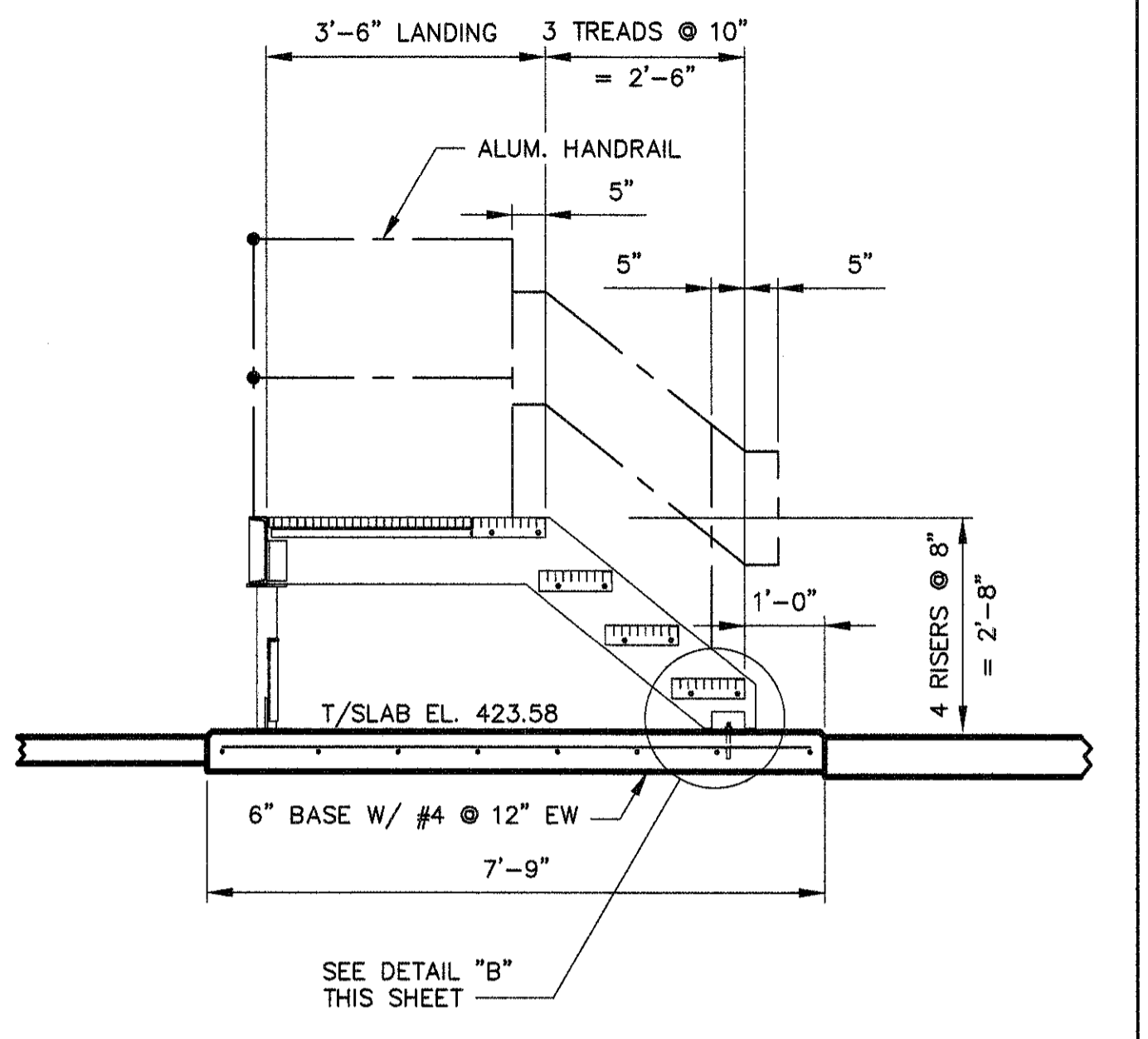
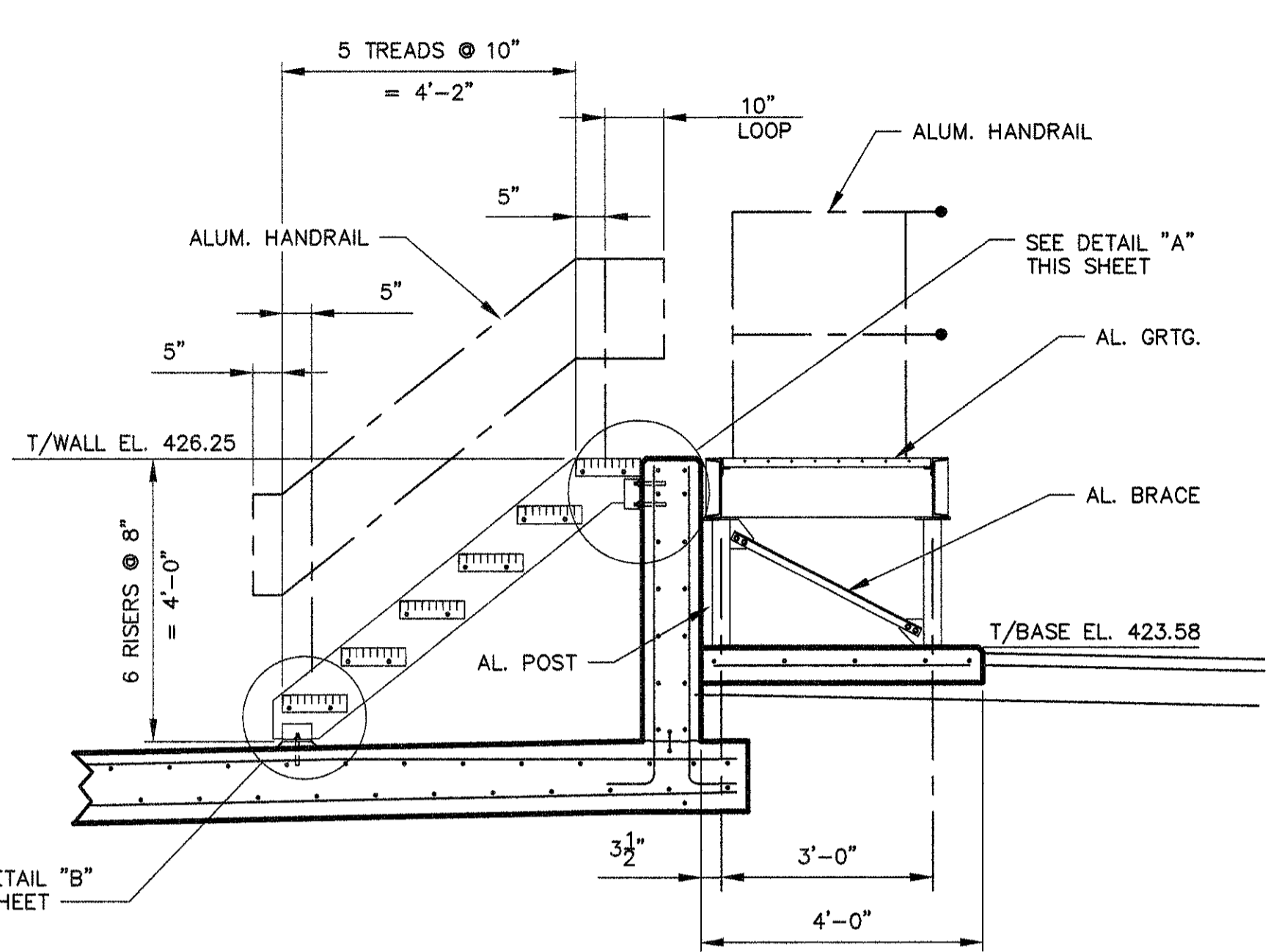
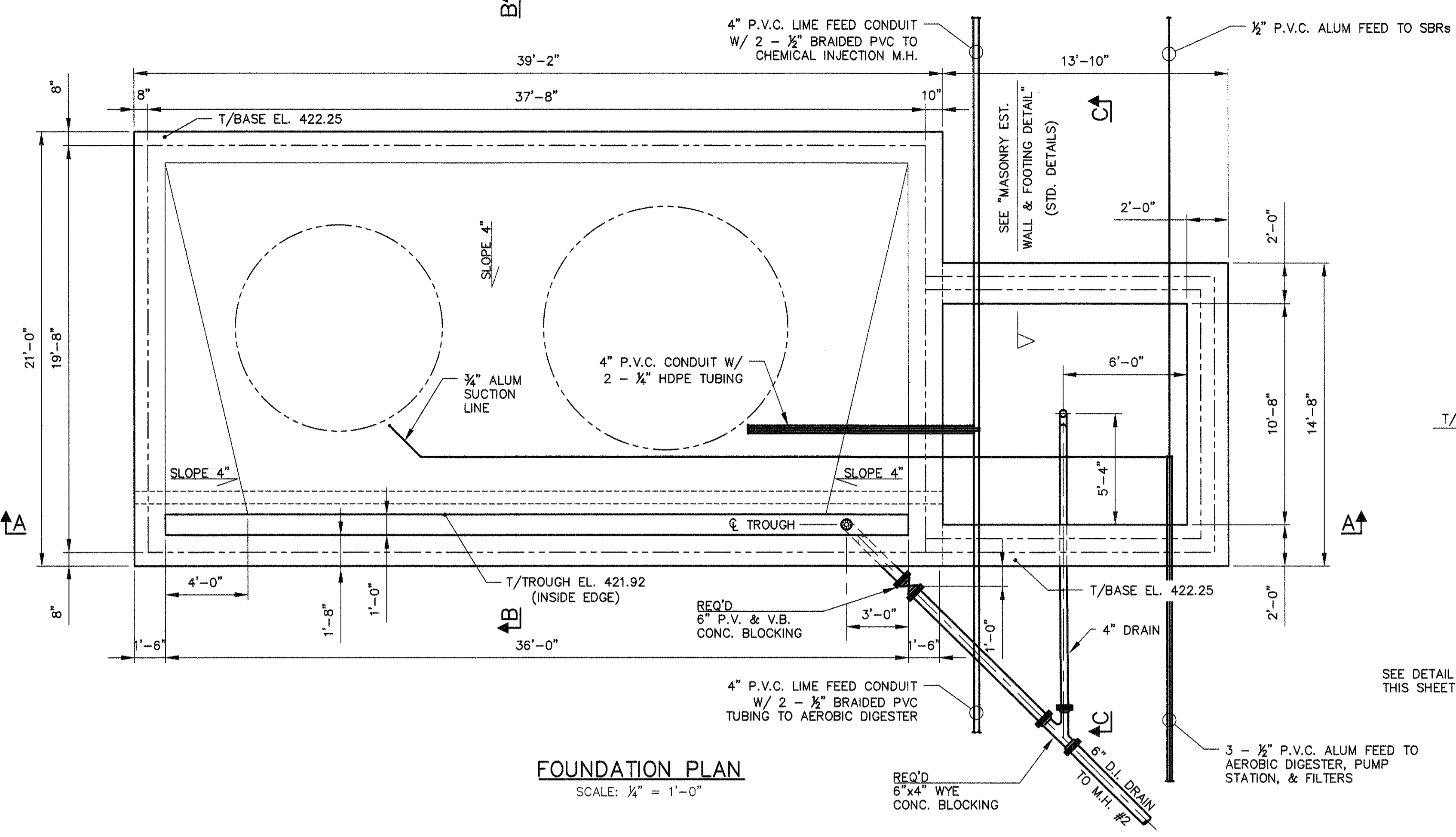
PIPING LEGEND

- | | |
|--|--|
| | UNION |
| | BALL VALVE |
| | CHECK VALVE |
| | ANTI-SYPHON VALVE |
| | SOLENOID VALVE |
| | GATE VALVE |
| | BUTTERFLY VALVE |
| | ANGLE GATE VALVE |
| | GLOBE VALVE |
| | ANGLE GLOBE VALVE |
| | PLUG VALVE |
| | THREE WAY VALVE |
| | PRESSURE REDUCING VALVE |
| | PRESSURE RELIEF VALVE |
| | STRAINER |
| | HOSE BIBB |
| | PRESSURE GAUGE, ASHCROFT OIL FILLED W/ VALVE AND SNUBBER |
| | FLOW METER |
| | FLOW METER W/ TOTALIZER |
| | CALIBRATION COLUMN |

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SLUDGE DEWATERING BUILDING HVAC PLAN	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 40 OF 77	

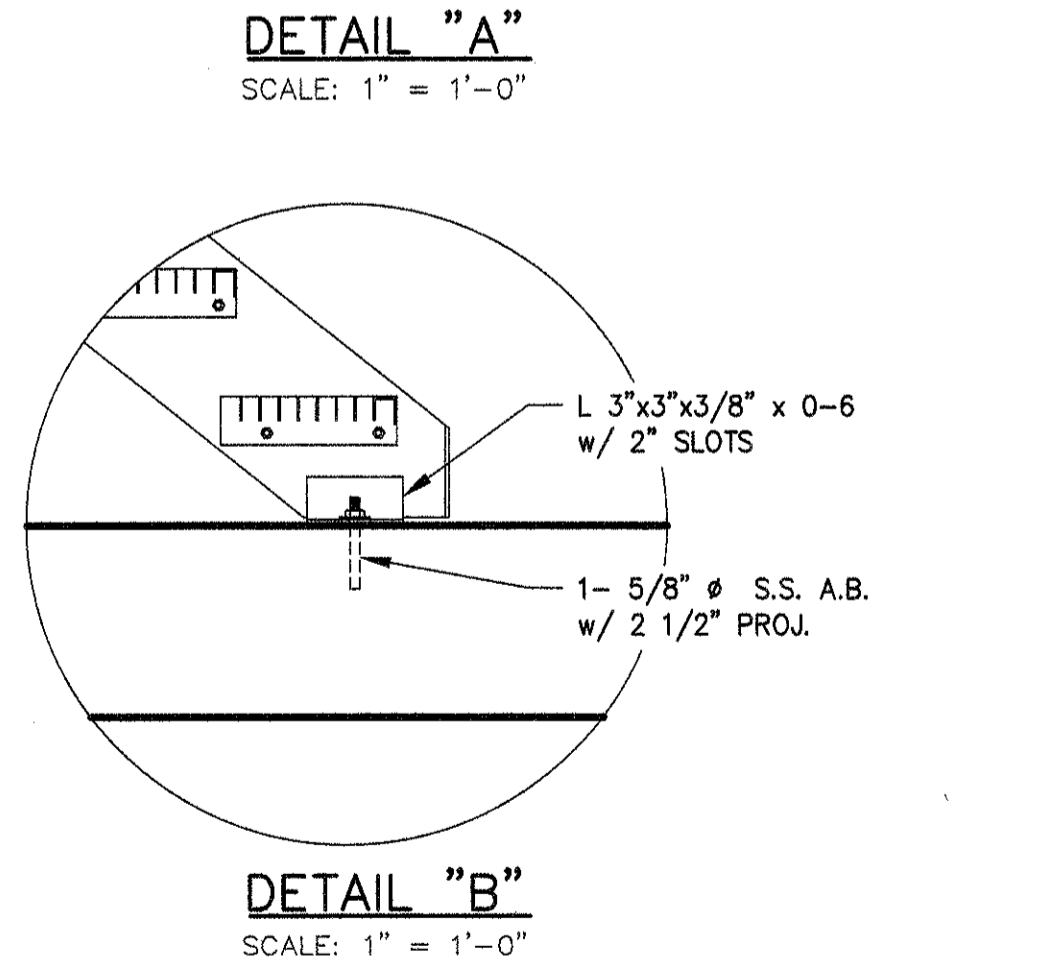
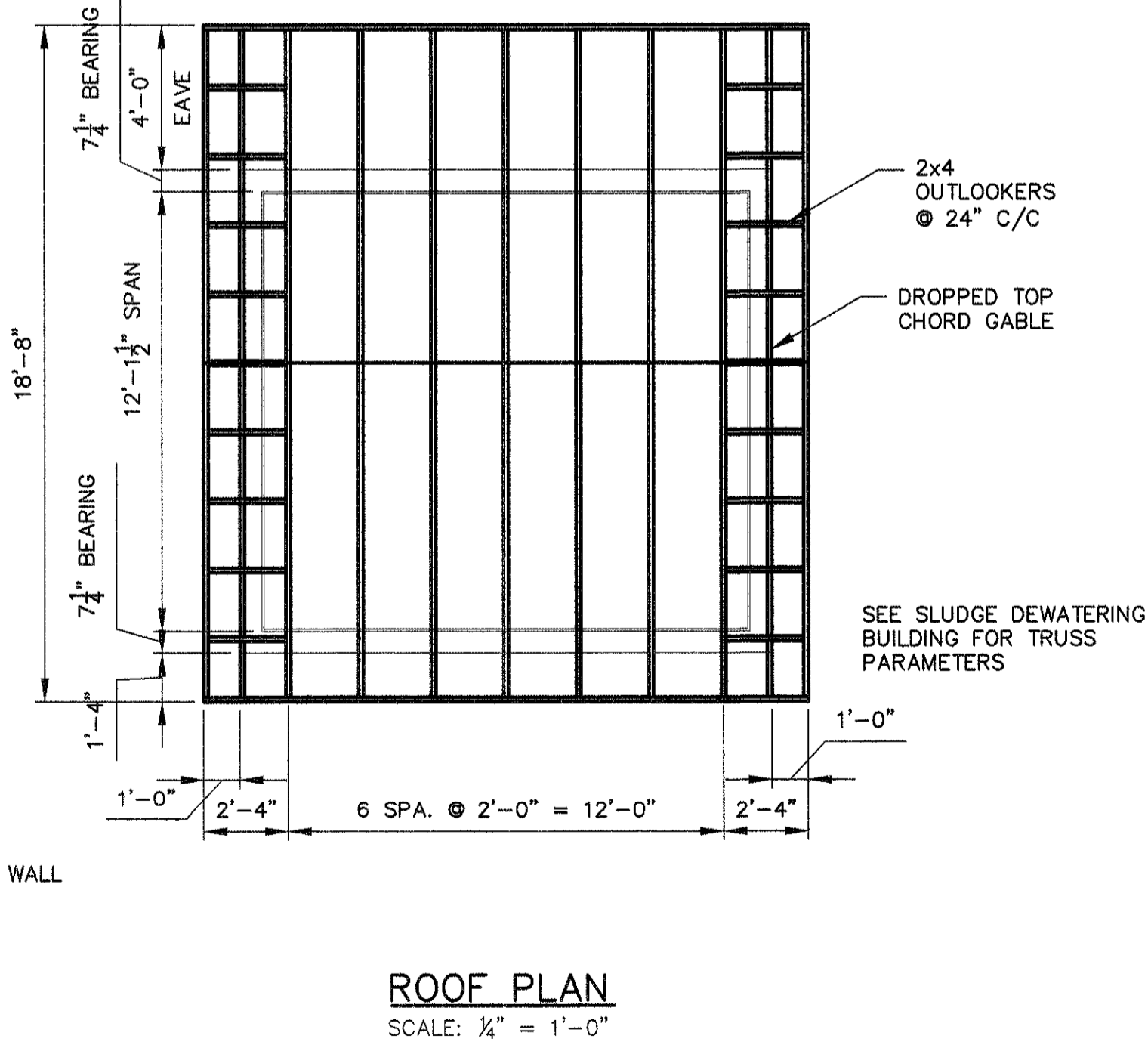
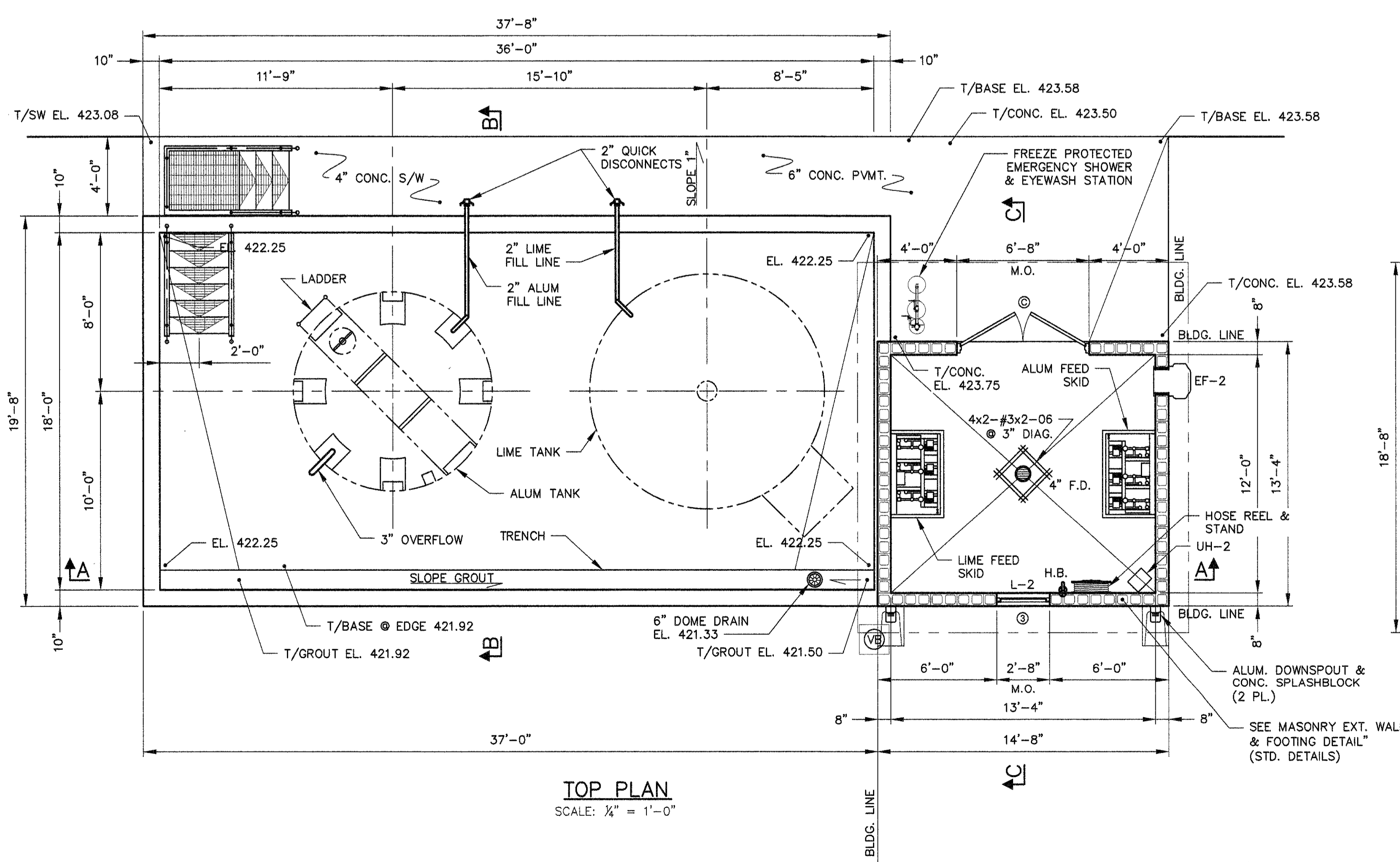
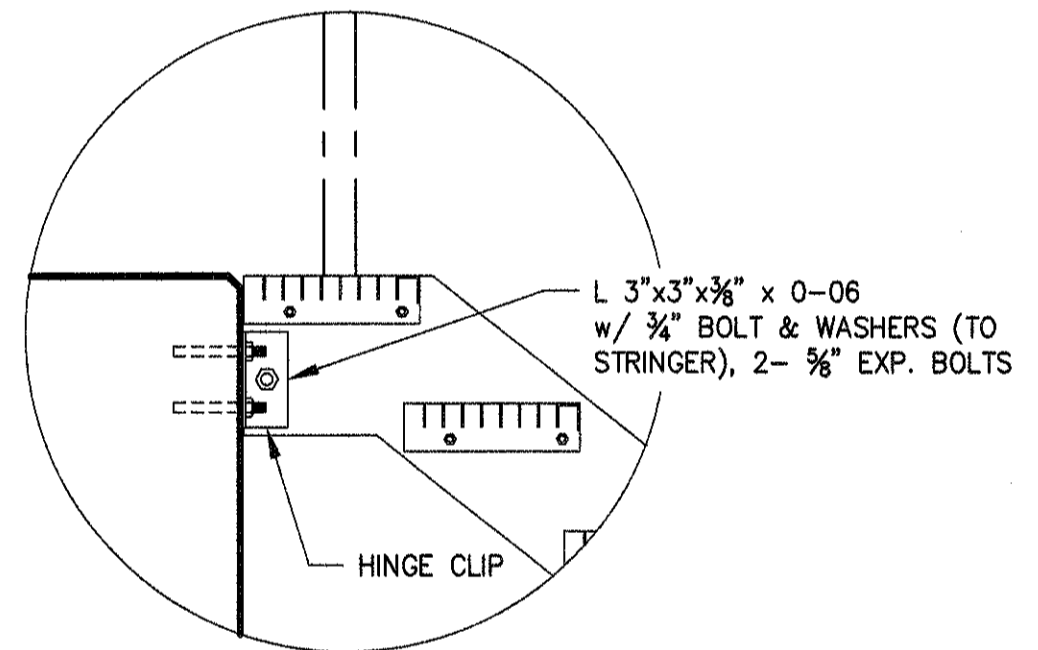


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FINISH SCHEDULE	
LOCATION	FINISH
CEILING & WALLS	PAINT *
CONCRETE SLAB	LT BROOM W/ TMEC CT DENSIFIER (2 COATS)
PIPING, SIDING, SOFFIT, FASCIA	PAINT *
METAL ROOF	KYNAR FACTORY COAT*

* SUBMIT COLOR SAMPLES FOR SELECTION BY OWNER
NOTE: APPLY WATER REPELLENT BARRIER, CHEMPROBE OR EQUAL TO ALL EXTERNAL CMU'S

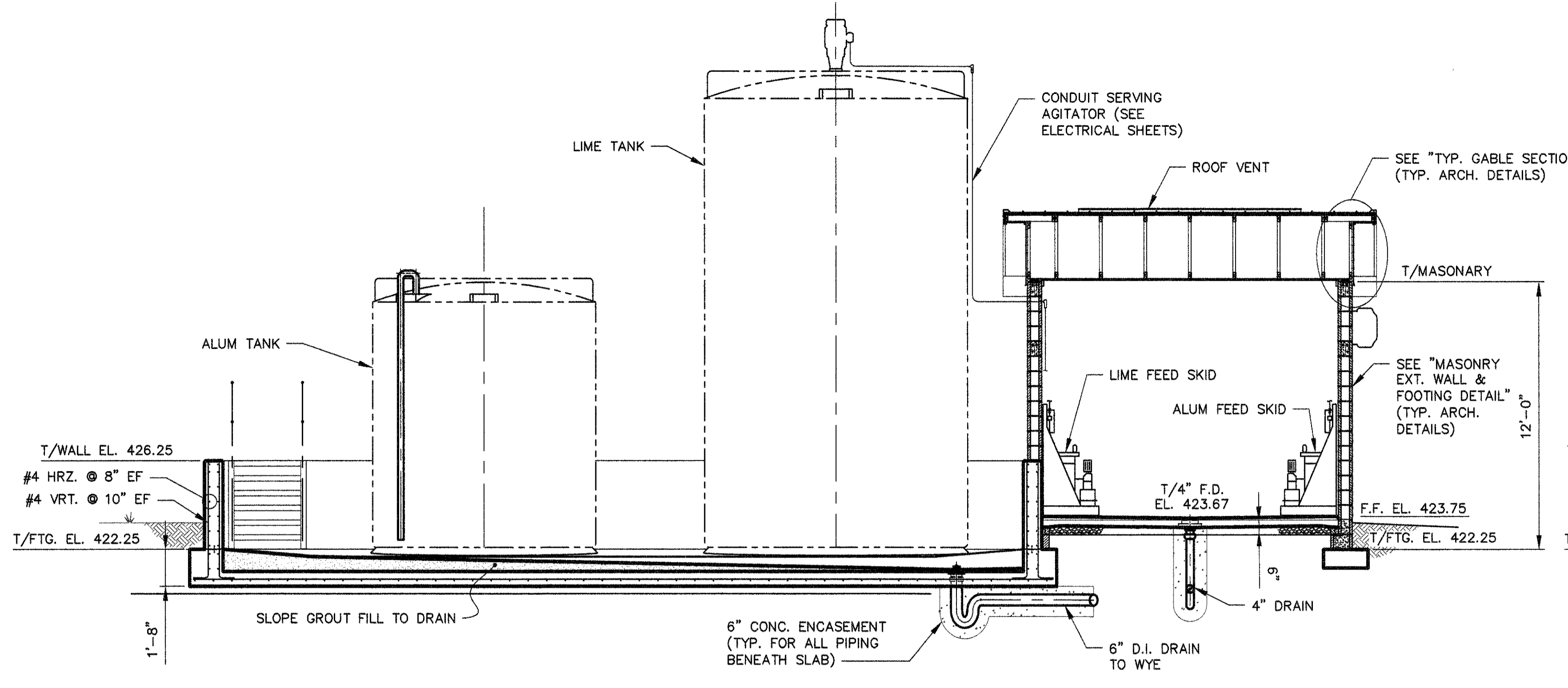


REVISIONS	CITY OF GROVETOWN, GEORGIA
04/2017	SEWERAGE SYSTEM IMPROVEMENTS
	WATER POLLUTION CONTROL PLANT - PHASE II
CHEMICAL STRUCTURE PLANS & DETAILS	
DRAWN	CHECKED
GKA	CKB
SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	SHEET 41 OF 77

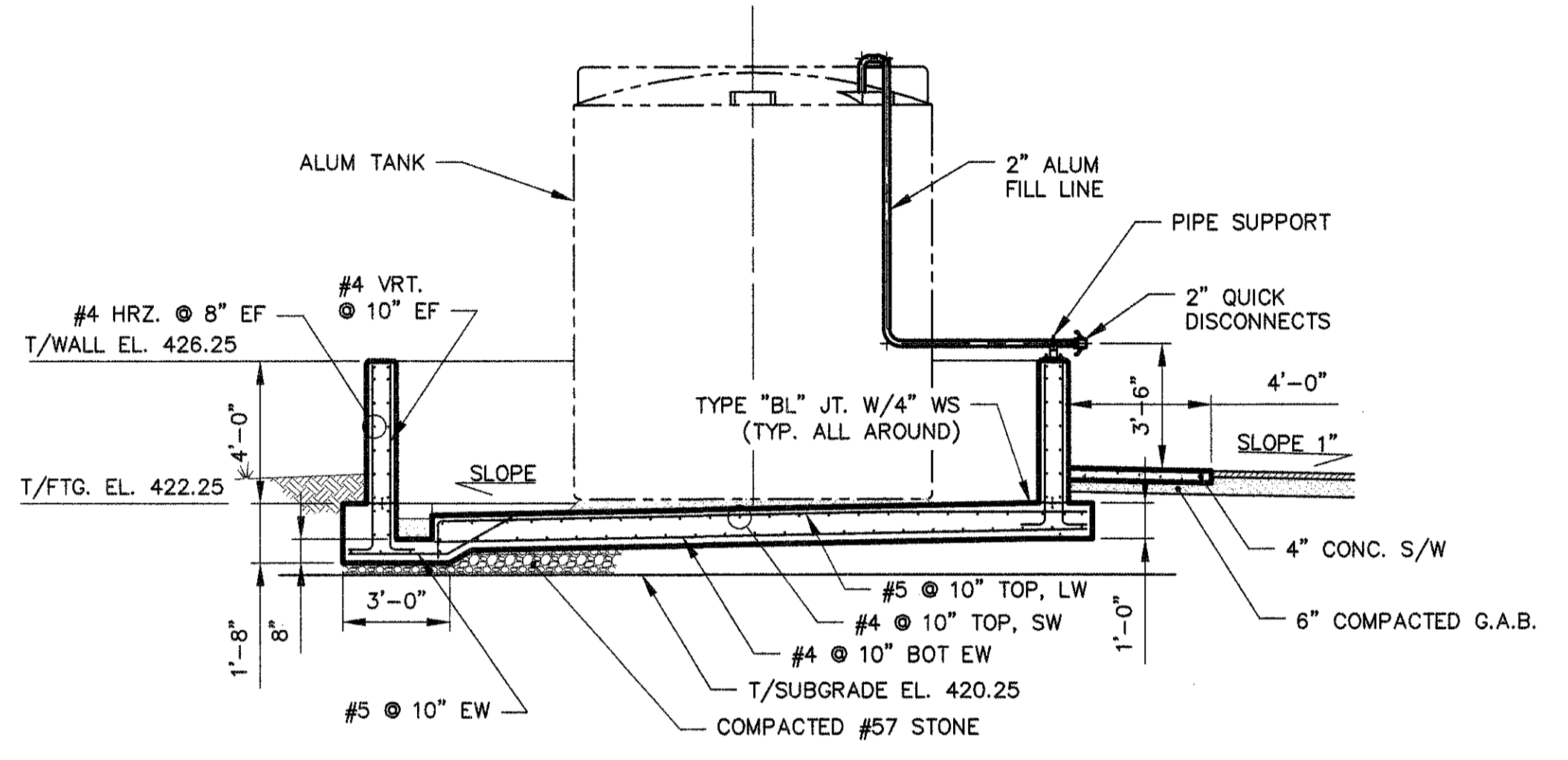


WUTRELL

HVAC SCHEDULE				
MARK	QTY.	MANUFACTURE PRODUCT NO.	DESCRIPTION	ACCESSORIES
EF-2	1	AEROVENT AHA 072	FIBERGLASS WALL EXHAUST FAN 127 CFM @ 0.125 SP 1/15HP, 115V, 1Ø	FAN HOUSING W/ BRID SCREEN, ALUMINUM FIXED LOUVER, AND BACKDRAFT DAMPER, DISCONNECT SWITCH, THERMOSTAT
L-2	1	UNITED ENERTECH: CFL-D-6	12" x 18" ELECTRICALLY ACTUATED LOUVER	WALL MOUNT BRACKET, LIMIT SWITCH, ELECTRIC DAMPER ACTUATOR, INSECT SCREEN
UH-2	2	REDD-I: 43WD3T01	WASHDOWN UNIT HEATER 3.3KW 480V 3Ø	WALL MOUNT BRACKET, THERMOSTAT, DISCONNECT SWITCH

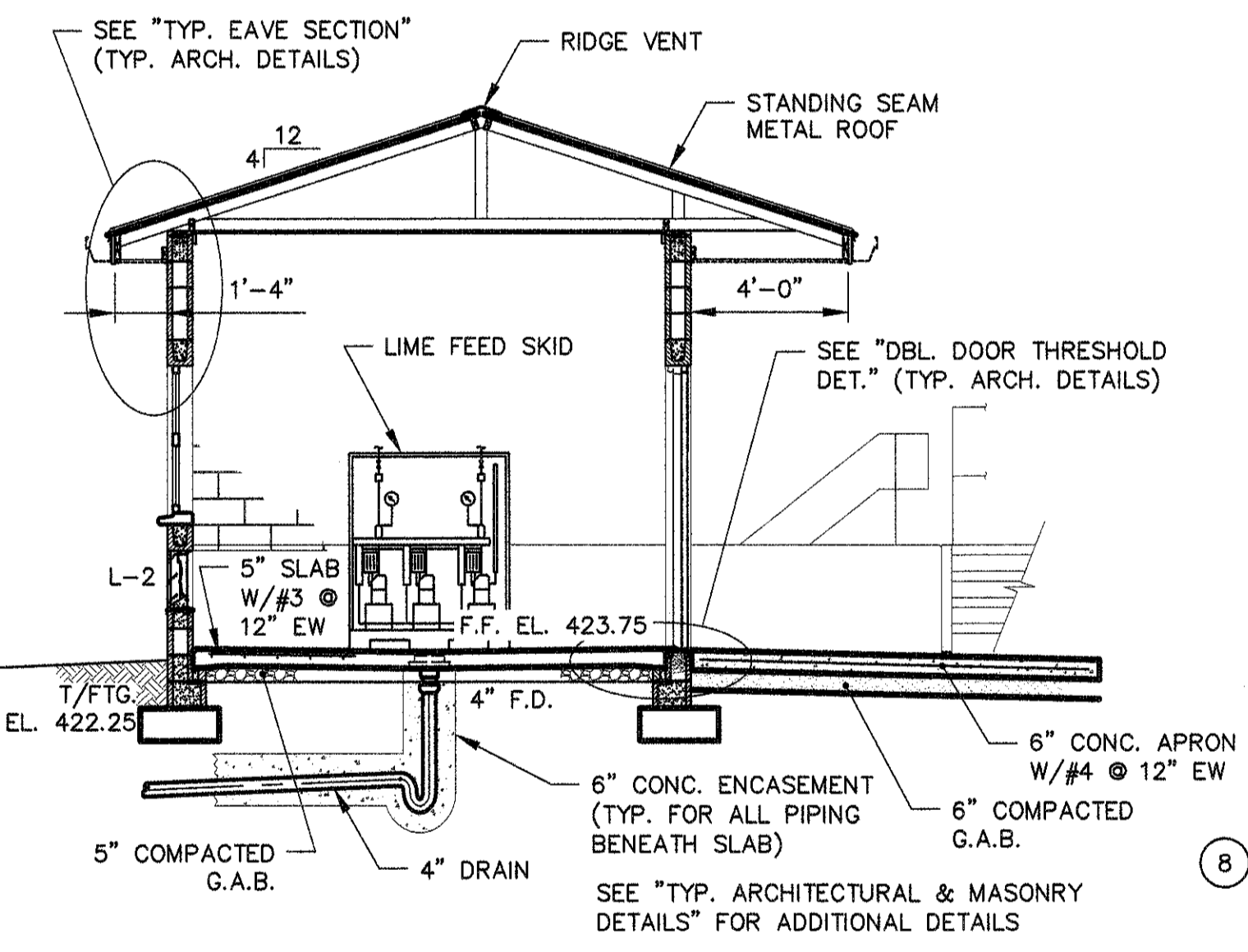


SECTION A-A
SCALE: 1/4" = 1'-0"

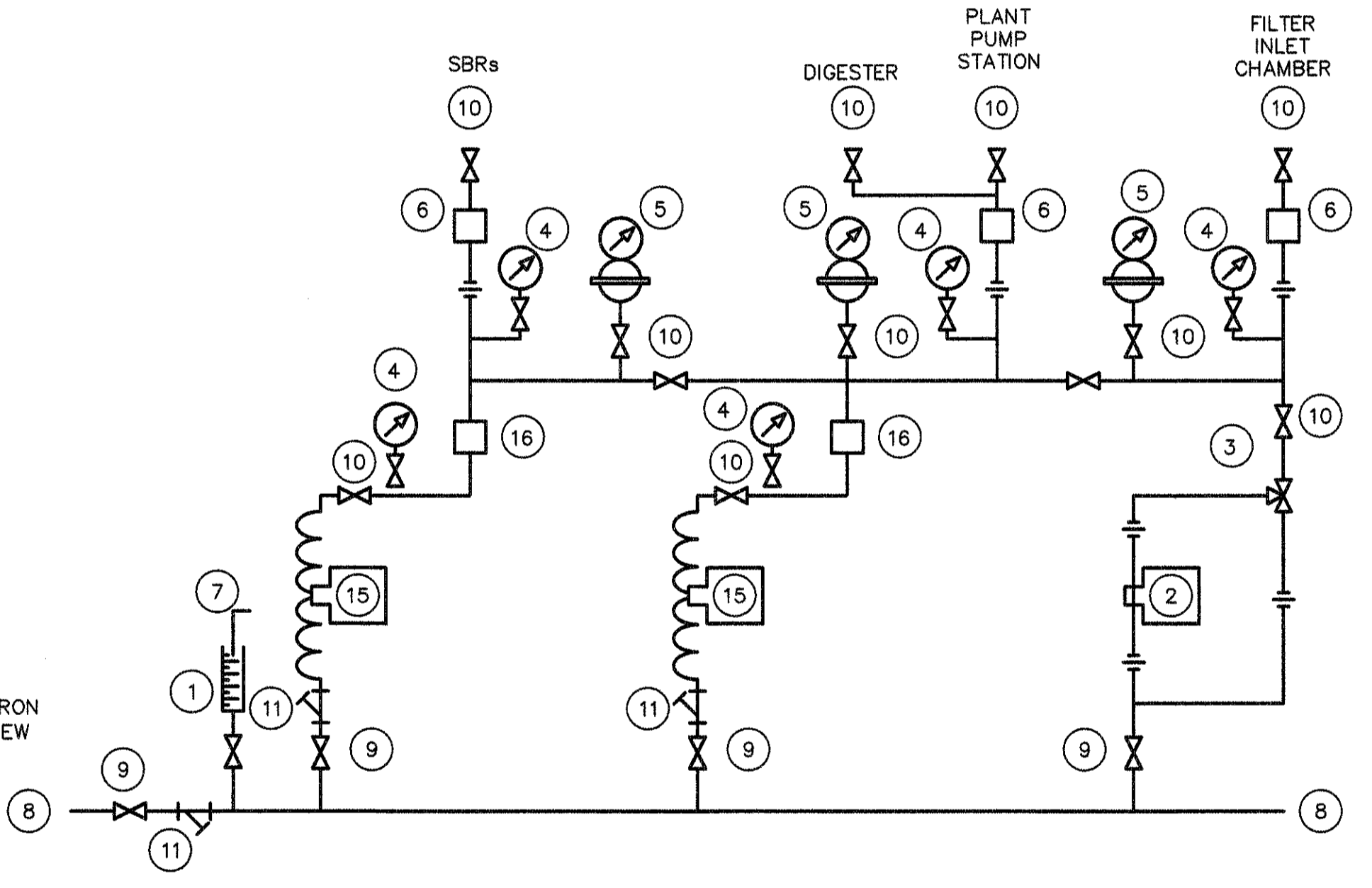


SECTION B-B
SCALE: 1/4" = 1'-0"

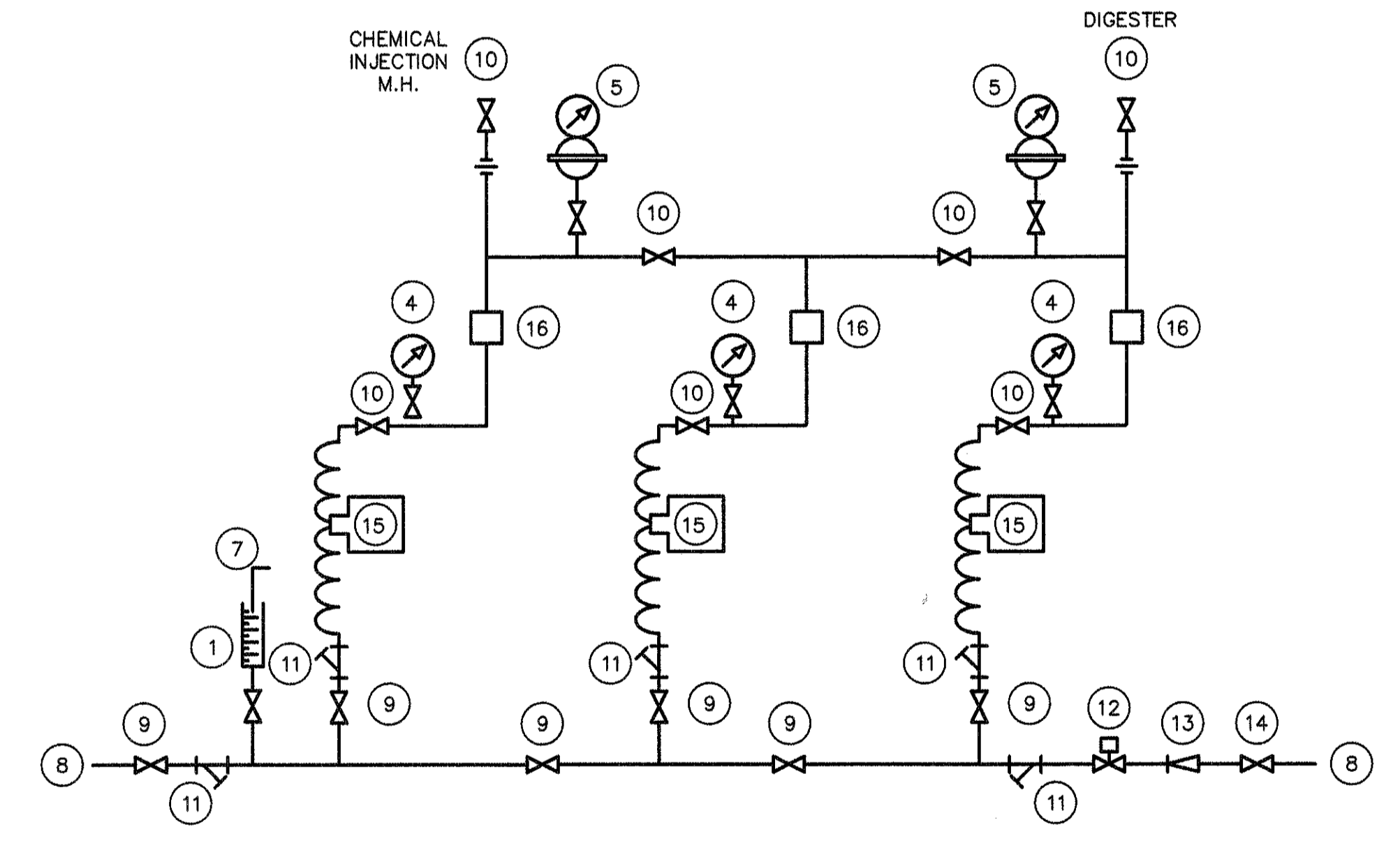
- FAN NOTES:**
- EXHAUST FAN TO BE FURNISHED WITH LINE VOLTAGE THERMOSTAT AND DISCONNECT SWITCH.
 - FACTORY APPLIED CORROSION RESISTANT COATING SUITABLE FOR USE IN CHEMICAL ROOMS SHALL BE APPLIED TO VENTILATION EQUIPMENT.
- LOUVER NOTES:**
- LOUVER TO BE ACTIVATED BY WALL MOUNTED THERMOSTAT. EXHAUST FAN TO BE ACTIVATED BY LIMIT SWITCH ON LOUVER.
 - LOUVER TO BE EQUIPPED WITH EXTERIOR INSECT SCREEN AND FACTORY APPLIED CORROSION RESISTANT COATING.
- HVAC NOTES:**
- ALL HVAC EQUIPMENT IN CHEMICAL ROOM TO BE CORROSION RESISTANT.
 - ALL SWITCHES, THERMOSTATS, ETC. IN BELT PRESS ROOM TO BE WATERTIGHT



SECTION C-C
SCALE: 1/4" = 1'-0"

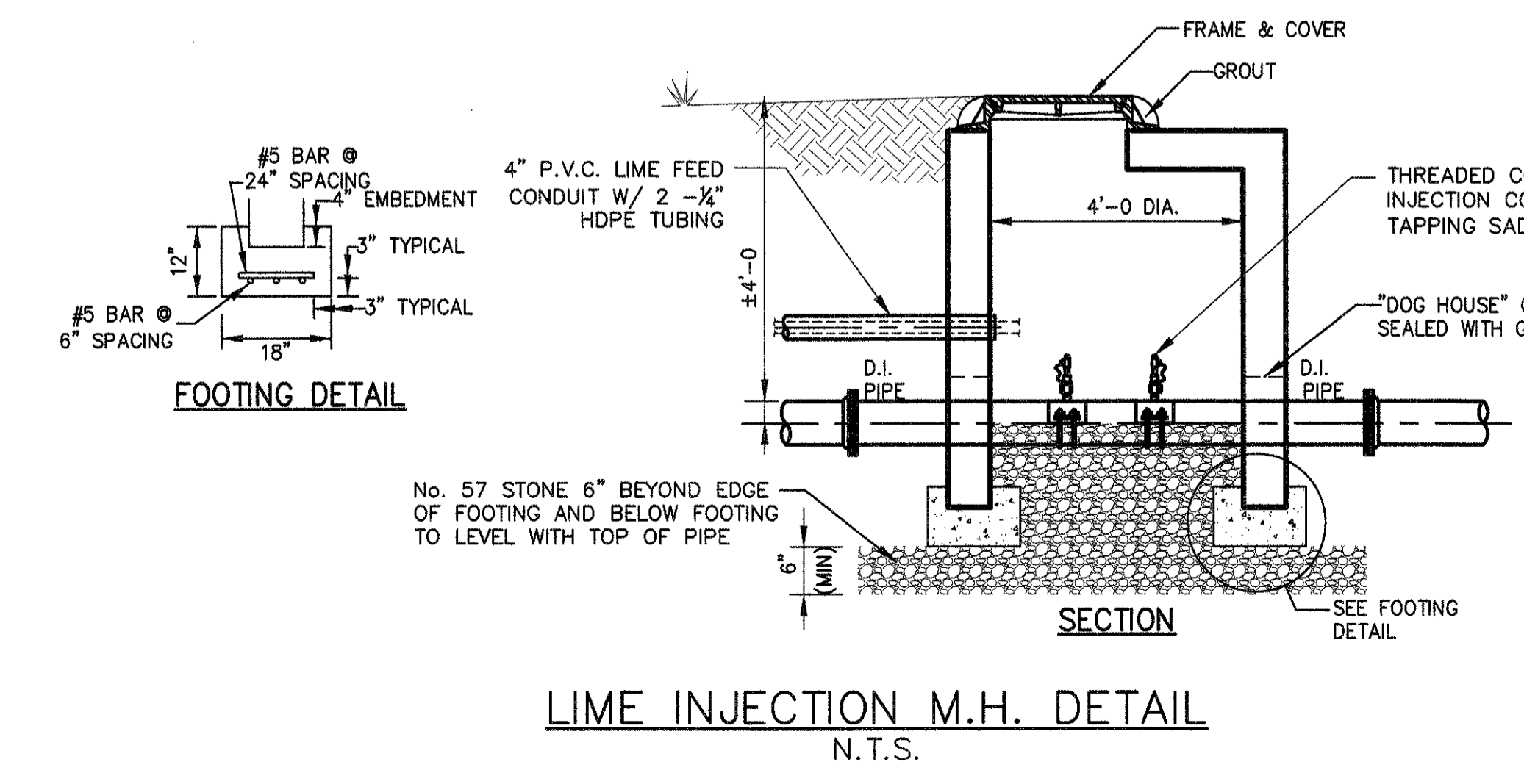


ALUM FEED PIPING DIAGRAM
N.T.S.

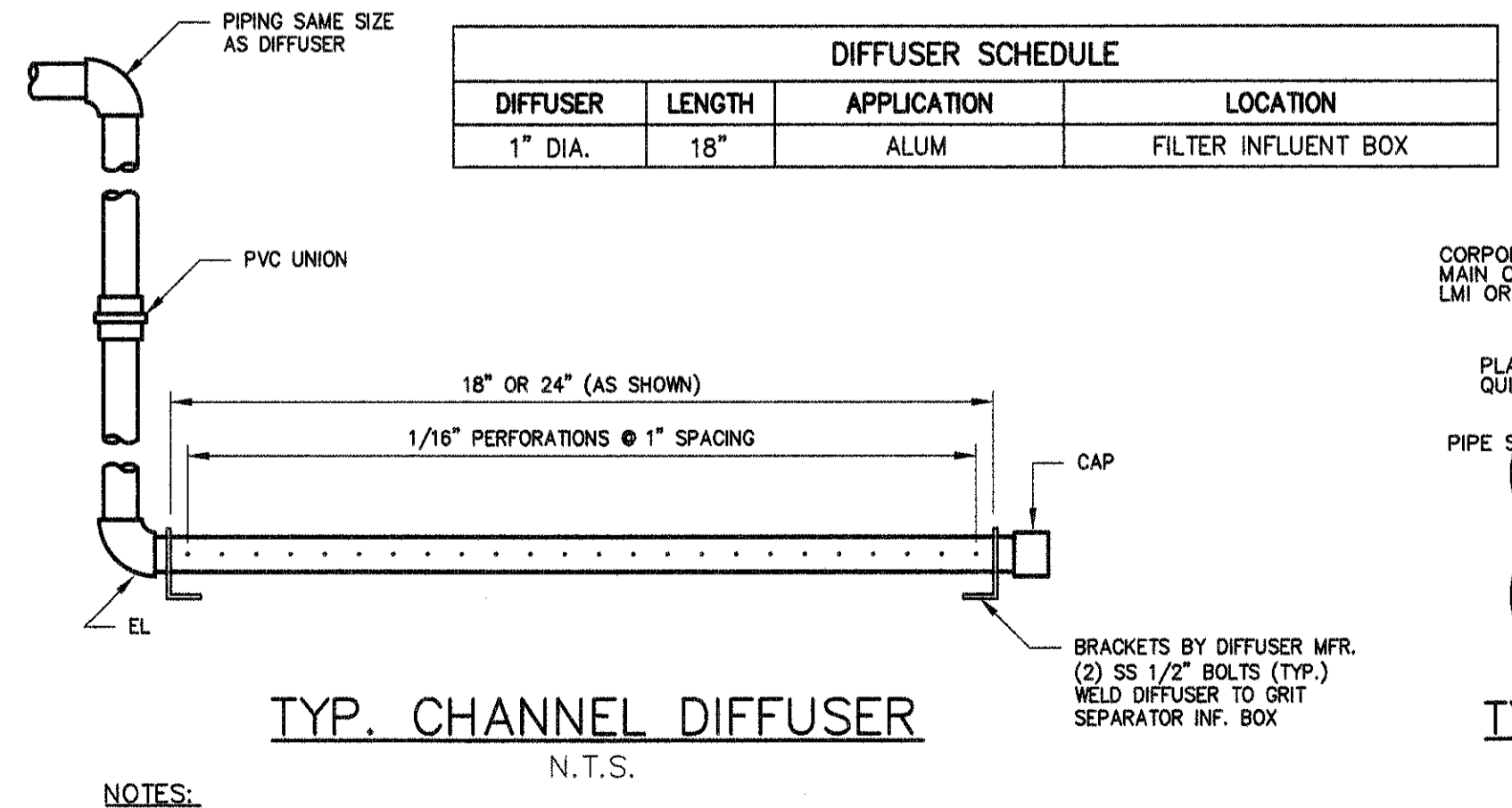


LIME FEED PIPING DIAGRAM
N.T.S.

- CHEMICAL FEED LEGEND**
- CALIBRATION COLUMN
 - METERING PUMP
 - MULTIFUNCTION VALVE
 - 2 1/2" PRESSURE GAUGE
 - PULSATION DAMPENER
 - 1/2" BACK PRESSURE VALVE
 - 1/2" TUBING VENT TO TANK
 - 3/4" SCH. 80 PVC INFLUENT
 - 3/4" BALL VALVE
 - 1/2" BALL VALVE
 - 3/4" WYE STRAINER
 - 3/4" AUTOMATIC FLUSHING SOLENOID VALVE
 - 3/4" BACK FLOW PREVENTER
 - 3/4" PRESSURE REDUCING VALVE
 - PERISTALTIC PUMP
 - PRESSURE SWITCH
 - TRUE UNION
 - DEPICTS FLEXHOSE

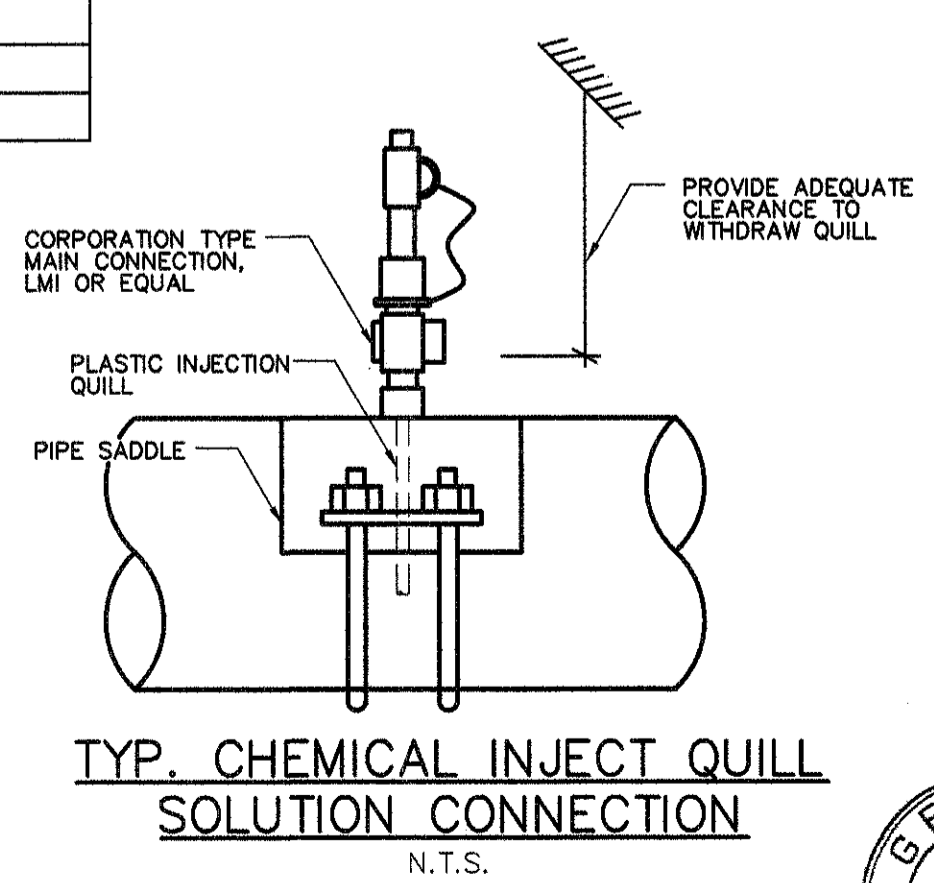


LIME INJECTION M.H. DETAIL
N.T.S.



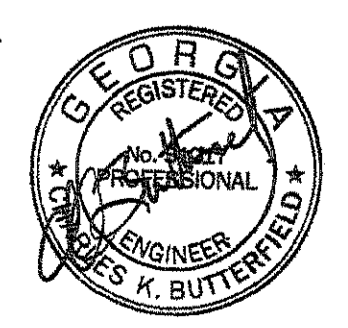
TYP. CHANNEL DIFFUSER
N.T.S.

- NOTES:**
- CHEMICAL FEED PIPING TO BE SCHEDULE 80 P.V.C. UNLESS NOTED OTHERWISE.
 - CHEMICAL INJECTION QUILL (LIME AT INFLUENT FORCE MAIN & ALUM AT PLANT PUMP STATION)
 - REMAINING FEED POINT TO BE OPEN END DROP LINES (SBR, DIGESTER LIME & ALUM)
 - SITE CHEMICAL FEED PIPING TO BE 1/2" DIAMETER P.V.C. SEE PLANT FLOW SCHEMATIC FOR LOCATION.
 - LIME CHEMICAL FEED LINES SHALL BE 4" P.V.C. CONDUIT W/ LONG RADIUS BENDS AND TWO SETS OF 1/2" BRAID REINFORCED CLEAR PVC TUBING.

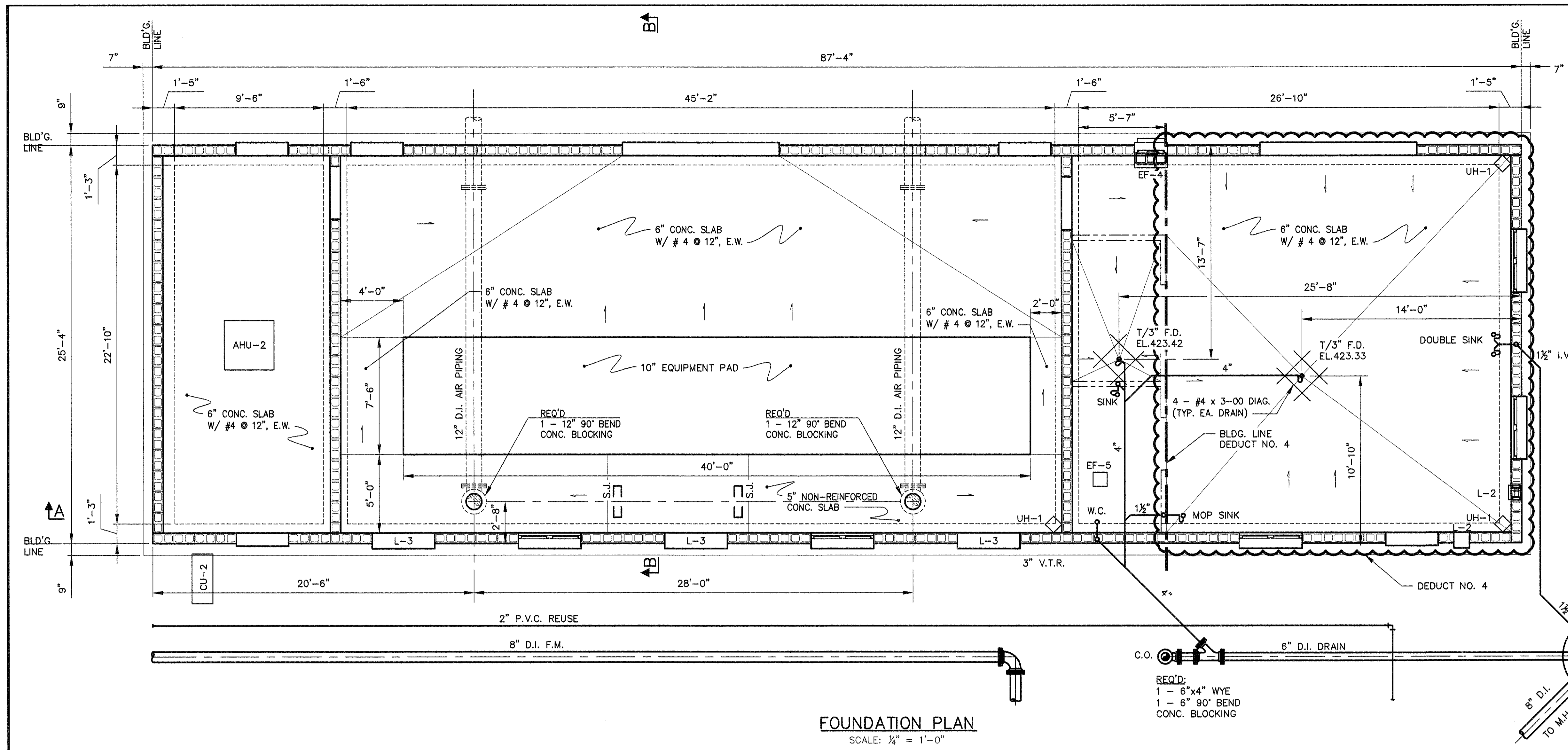


TYP. CHEMICAL INJECT QUILL SOLUTION CONNECTION
N.T.S.

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
CHEMICAL STRUCTURE SECTIONS & DETAILS			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
			SHEET 42 OF 77

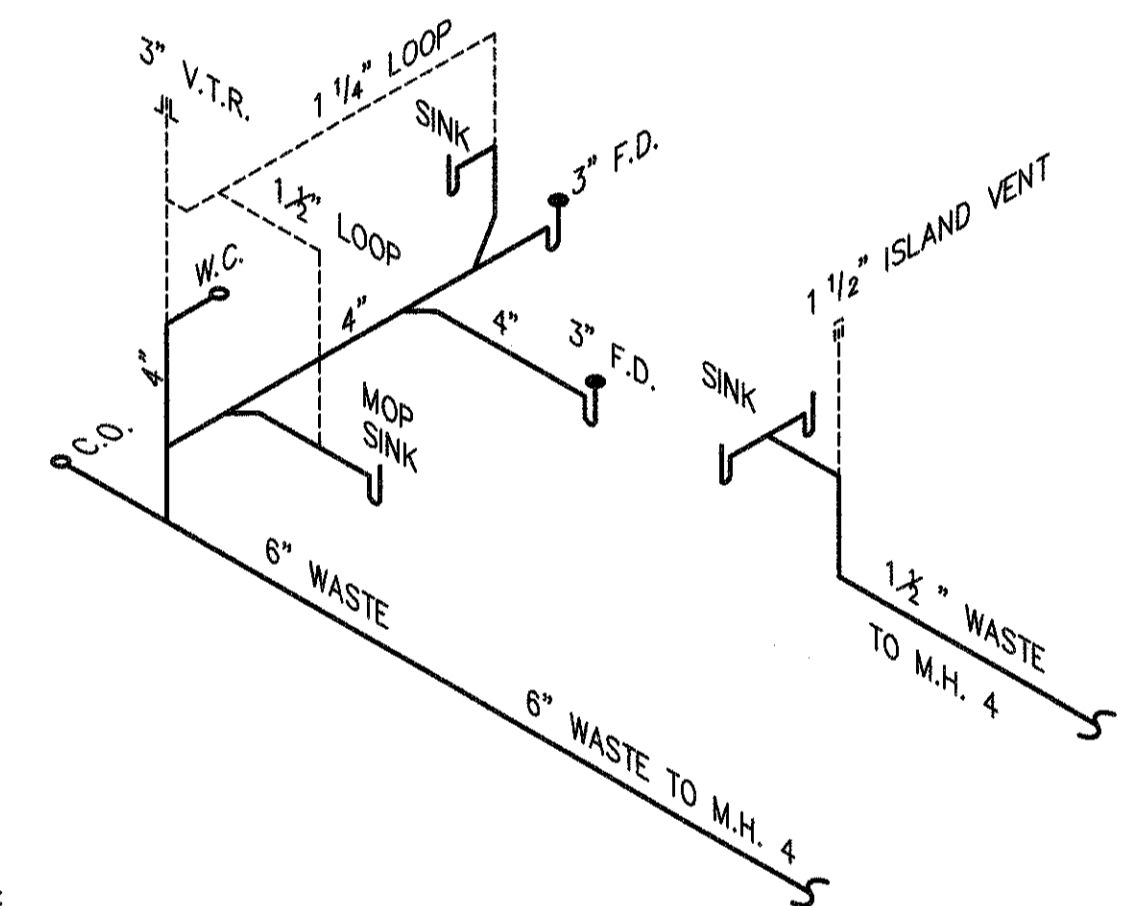


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HVAC SCHEDULE				
MARK	QTY.	MANUFACTURE PRODUCT NO.	DESCRIPTION	ACCESSORIES
EF-3	2	GREENHECK SIZE-161 CUE	ALUMINUM ROOF UPBLAST FAN 3,172CFM @ 0.5 S.P. 3/4HP 115V, 1Ø	FAN HOUSING W/ ROOF CURB, VARI-GREEN MOTOR W/ SPEED CONTROL, AND BACKDRAFT DAMPER, DISCONNECT SWITCH, THERMOSTAT
EF-4	1	AEROVENT AHA 072	FIBERGLASS WALL EXHAUST FAN 340 CFM @ 0.125 SP 1/15HP, 115V, 1Ø	FAN HOUSING W/ BRID SCREEN, ALUMINUM FIXED LOUVER, AND BACKDRAFT DAMPER, DISCONNECT SWITCH, THERMOSTAT DELETE FAN EF-4 FOR DEDUCT No. 4
EF-5	1	BROAN AE110	CEILING MOUNTED VENTILATOR 110CFM @ 0.1 SP.	VENT TO SOFFIT
L-2	1	UNITED ENERTECH: CFL-D-6	12" x 18" ELECTRICALLY ACTUATED LOUVER	WALL MOUNT BRACKET, LIMIT SWITCH, ELECTRIC DAMPER ACTUATOR, INSECT SCREEN
L-3	3	KENTICS KCPL-2	48"W x 72"H ALUMINUM ACOUSTIC LOUVERS	WALL MOUNT BRACKET, BIRD SCREEN
UH-1	3	REDD-I: 43WD10T01	WASHDOWN UNIT HEATER 10KW 480V 3Ø	WALL MOUNT BRACKET, THERMOSTAT, DISCONNECT SWITCH
AHU-2	1	LG: LCN247HV	HIGH MOUNT, CARTRIDGE HEAT PUMP 120V 1Ø	
CU-2	1	LG: LUU247HV	HEAT PUMP CONDENSING UNIT, 24 MBH COOL, 27 MBH HEAT 230V 1Ø	CONCRETE PAD, SIGHT GLASS FILTER DRYER
G-1	2	TITUS:50FF	22"x22" ALUMINUM EGG CRATE GRILLE	ALUMINUM SURFACE MOUNT BORDER

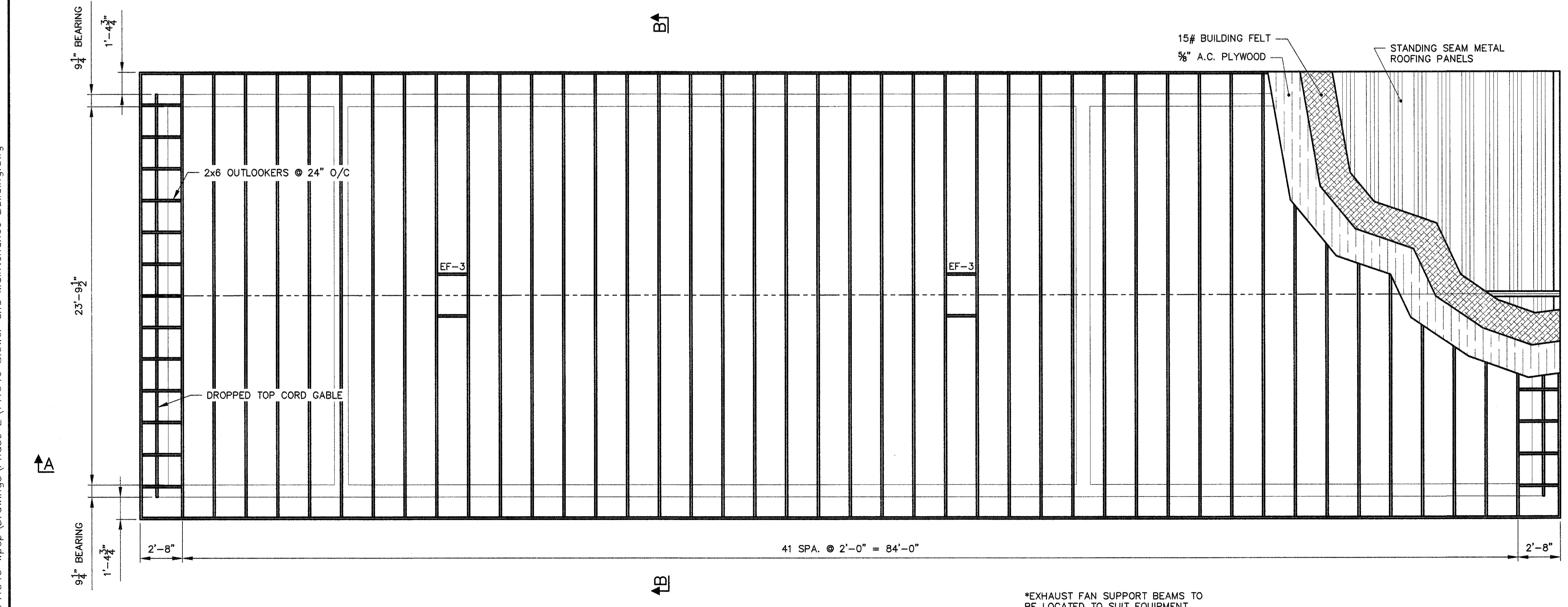
- FAN NOTES:**
- EXHAUST FAN TO BE FURNISHED WITH LINE VOLTAGE THERMOSTAT AND DISCONNECT SWITCH.
 - FACTORY APPLIED CORROSION RESISTANT COATING SUITABLE FOR USE IN CHEMICAL ROOMS SHALL BE APPLIED TO VENTILATION EQUIPMENT.
- LOUVER NOTES:**
- LOUVERS TO BE ACTIVATED BY WALL MOUNTED THERMOSTAT. EXHAUST FAN TO BE ACTIVATED BY LIMIT SWITCH ON LOUVER.
 - LOUVERS TO BE EQUIPPED WITH EXTERIOR BIRD OR INSECT SCREEN AND FACTORY APPLIED CORROSION RESISTANT COATING.



TRUSS DESIGN PARAMETERS:

TOP CORD LOADING - 20 PSF L.L., 10 PSF D.L.
 BOTTOM CORD LOADING - 10 PSF L.L., 10 PSF D.L.
 BASE WIND LOAD - 115 MPH

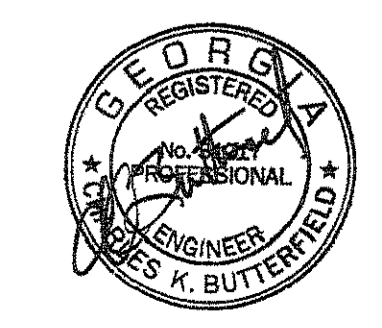
CATEGORY II
 EXPOSURE C
 PARTIALLY ENCLOSED BUILDING
 DOL = 1.15



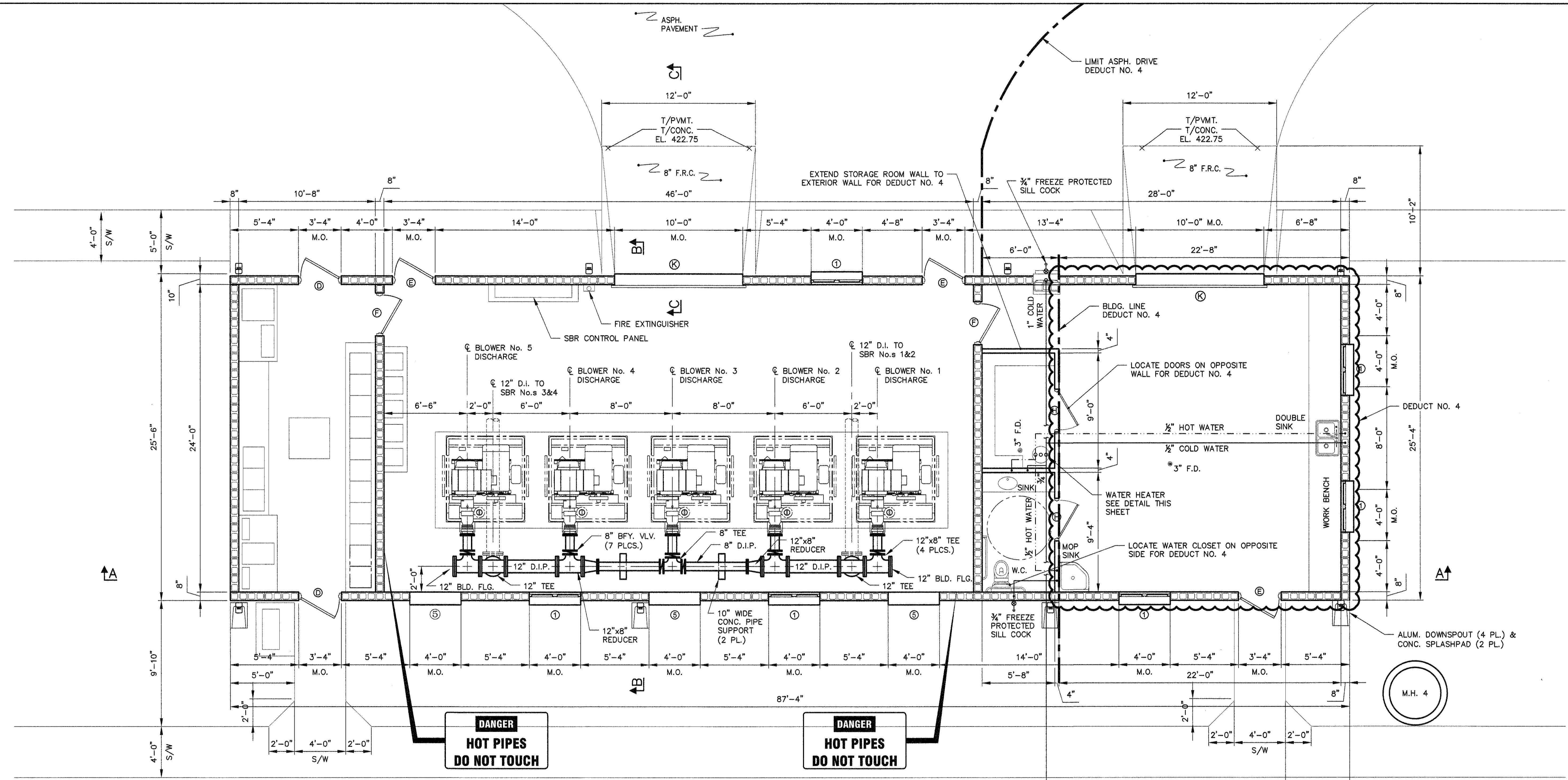
*EXHAUST FAN SUPPORT BEAMS TO BE LOCATED TO SUIT EQUIPMENT.

NOTE: ROOF MFR. SHALL PROVIDE SOFFIT VENTS & RECOMMEND SPACING

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		BLOWER & MAINTENANCE BUILDING FOUNDATION & ROOF PLAN	
05/2017			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 43 OF 77	



P:\grovetown\141946 wpcp\Drawings\Phase 2\141946 Blower and Maintenance Building.dwg

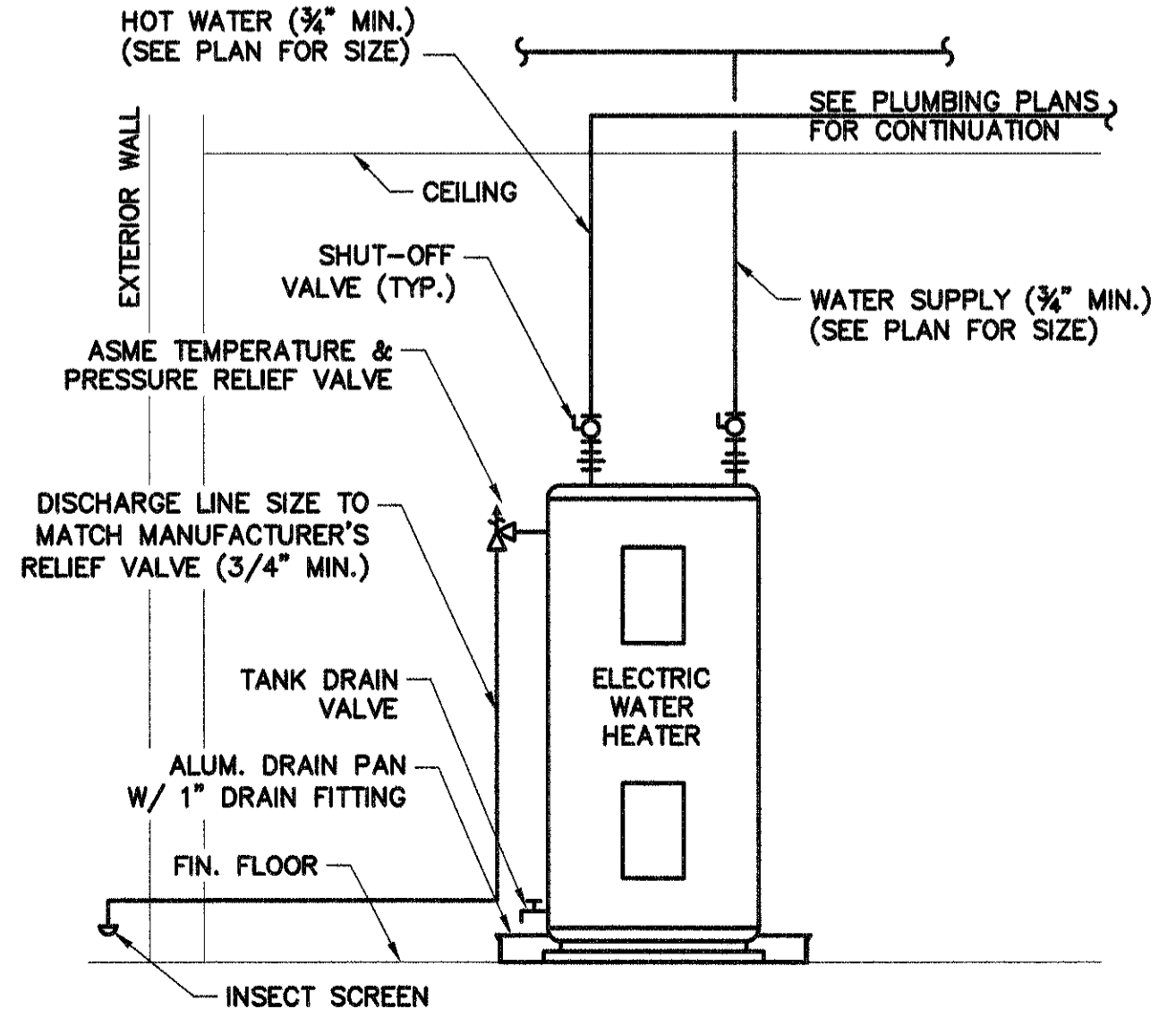


DANGER HOT PIPES DO NOT TOUCH

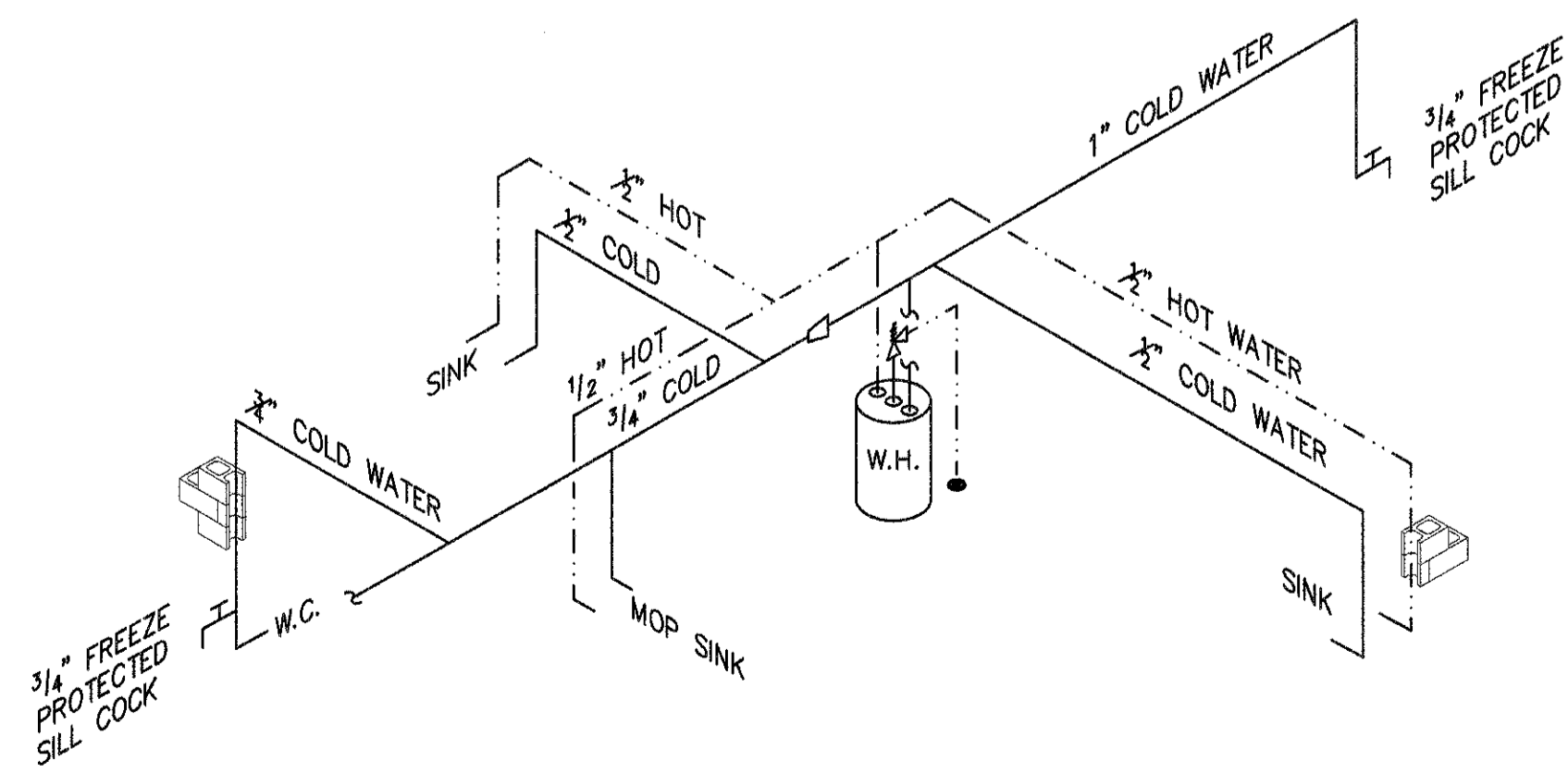
DANGER HOT PIPES DO NOT TOUCH

NOTE: INSTALL HOT PIPES SIGN ON BOTH SIDES OF BLOWER ROOM.

FLOOR PLAN
SCALE: 1/4" = 1'-0"



ELECTRIC WATER HEATER DETAIL
SCALE: N.T.S.



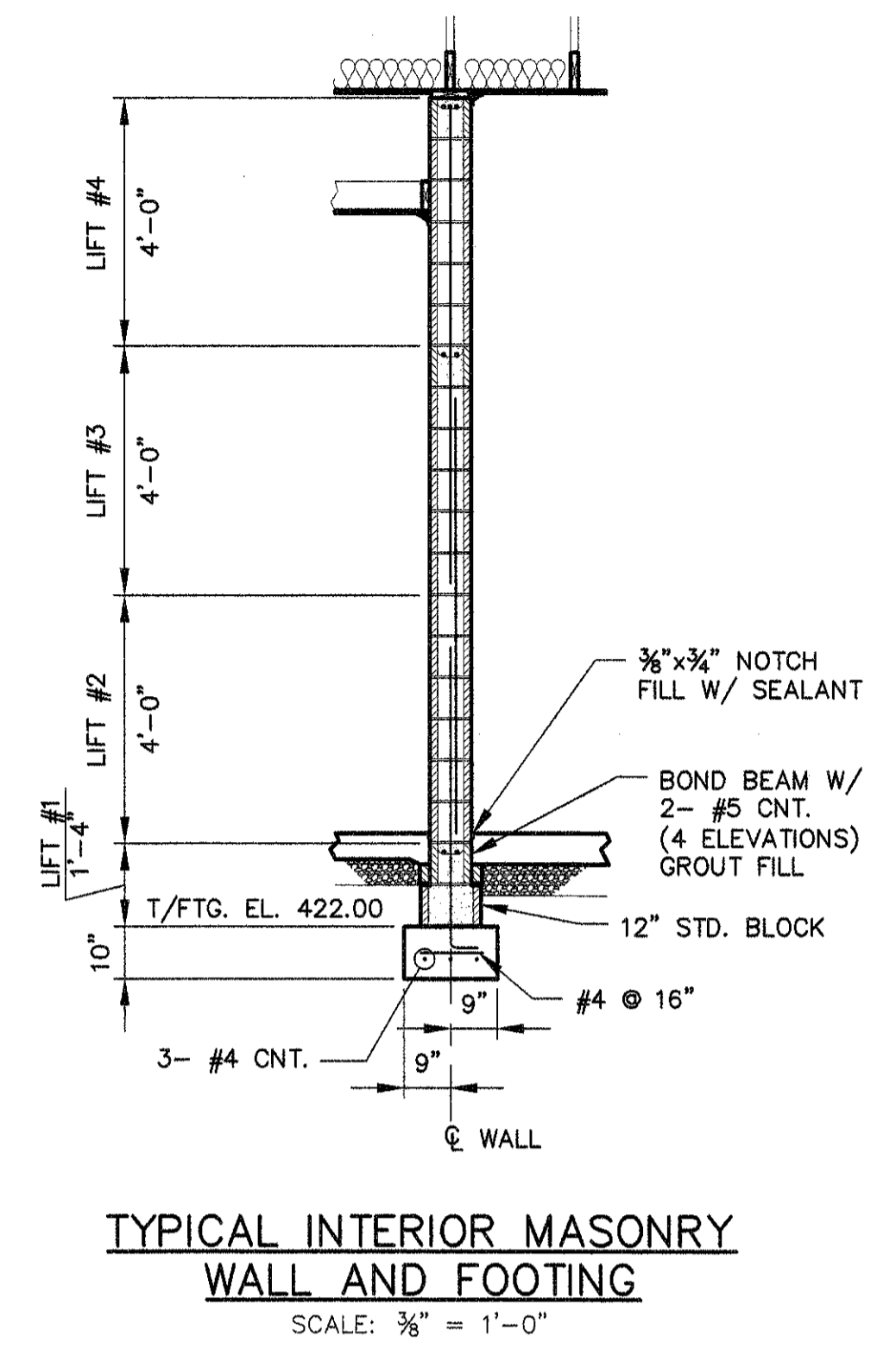
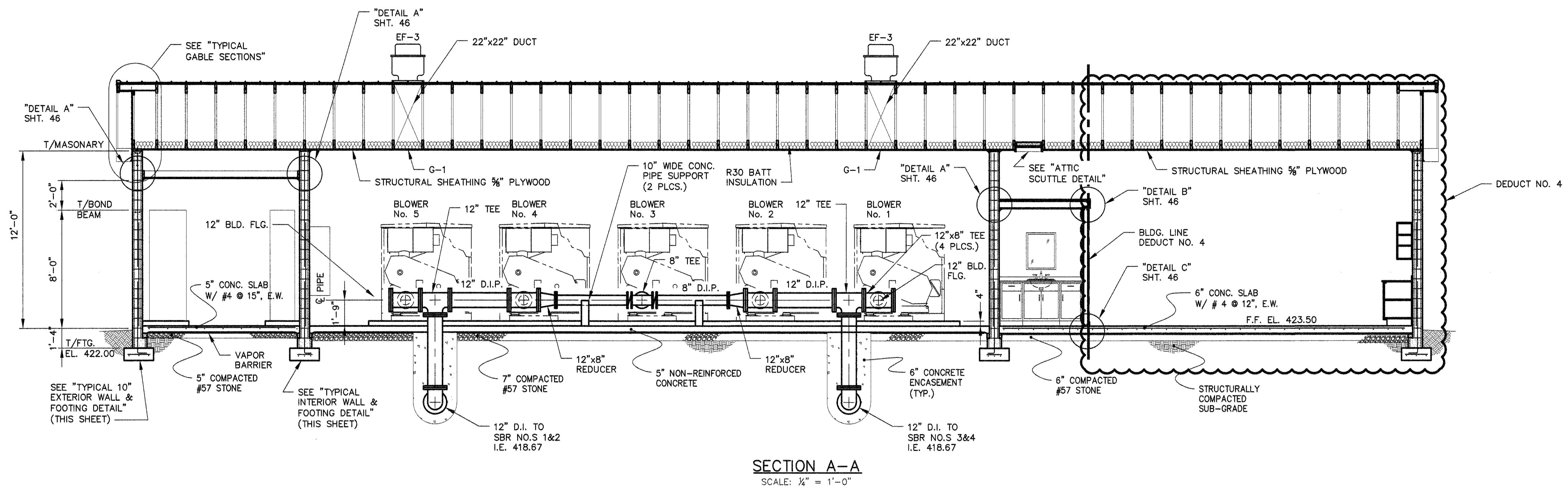
WATER SUPPLY RISER DIAGRAM
N.T.S.

FINISH SCHEDULE	
LOCATION	FINISH
CEILING & WALLS	PAINT *
CONCRETE SLAB	LT BROOM W/ TNEPEC CT DENSIFIER (2 COATS)
DOORS, FRAMES & TRIM, PIPING, SIDING, SOFFIT, FASCIA	PAINT *
METAL ROOF	KYNAR FACTORY COAT*

* SUBMIT COLOR SAMPLES FOR SELECTION BY OWNER
NOTE: APPLY WATER REPELLENT BARRIER, CHEMPROBE OR EQUAL TO ALL EXTERNAL CMU'S

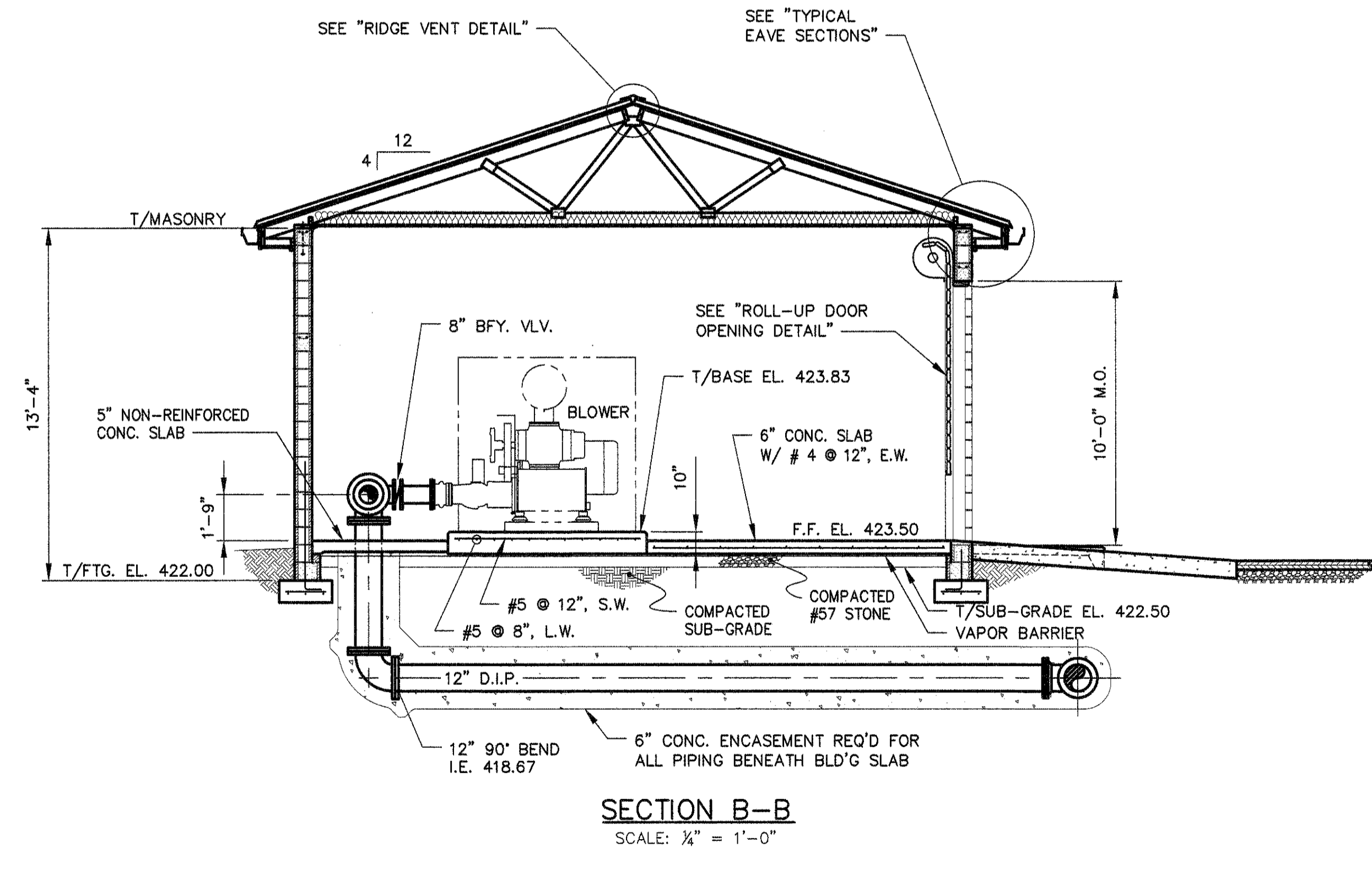


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		BLOWER & MAINTENANCE BUILDING PLAN & DETAILS	
05/2017			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 44 OF 77	

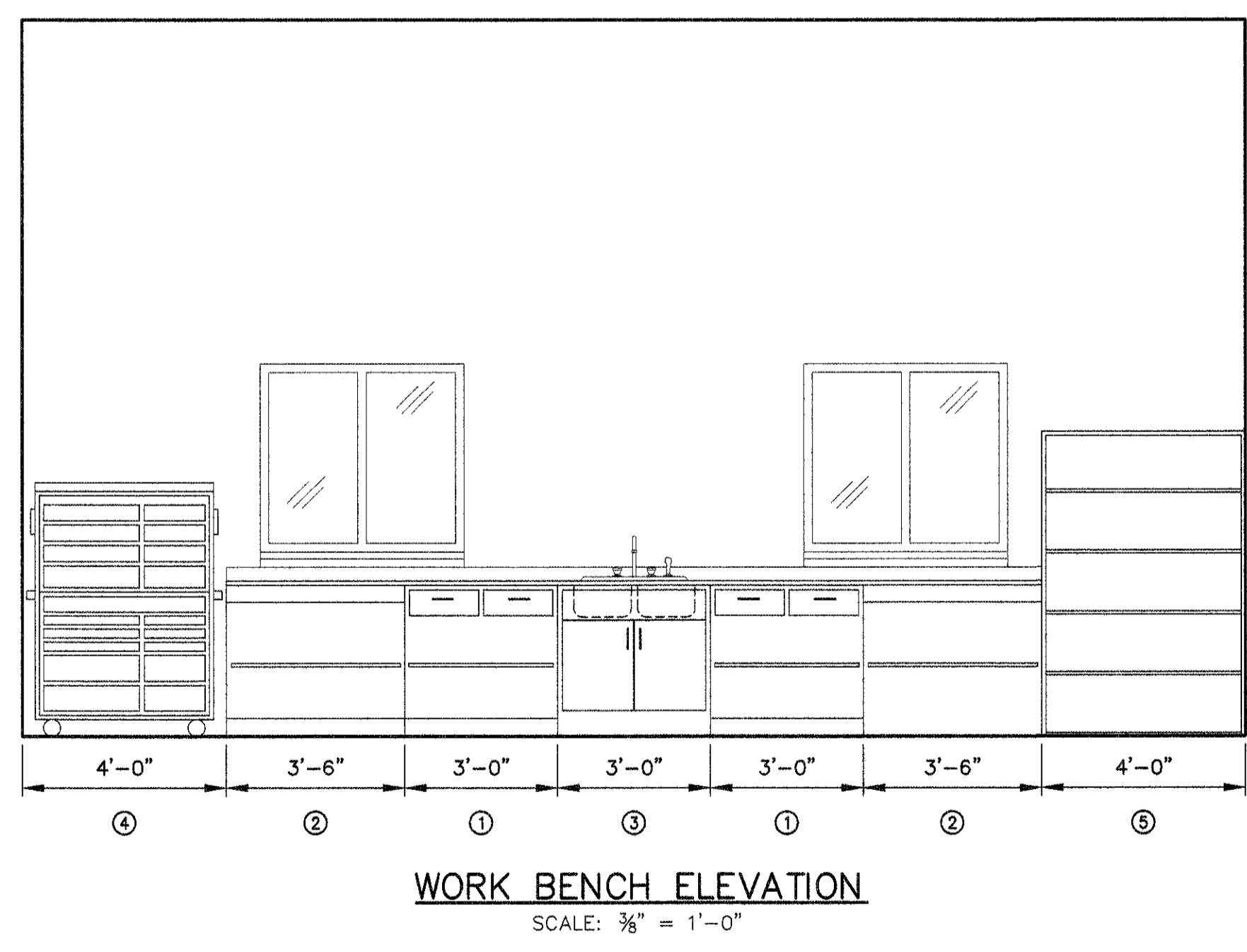


SECTION A-A
SCALE: 1/4" = 1'-0"

TYPICAL INTERIOR MASONRY WALL AND FOOTING
SCALE: 3/8" = 1'-0"



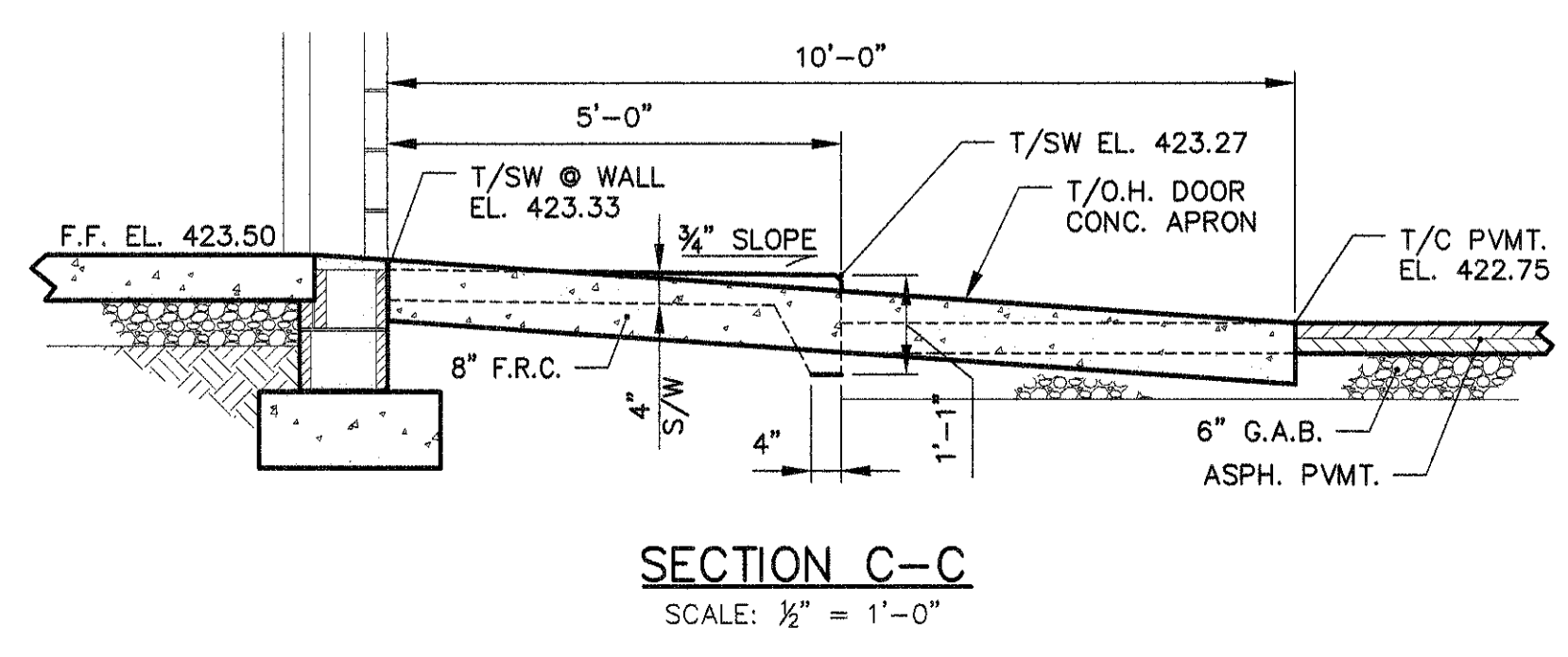
SECTION B-B
SCALE: 1/4" = 1'-0"



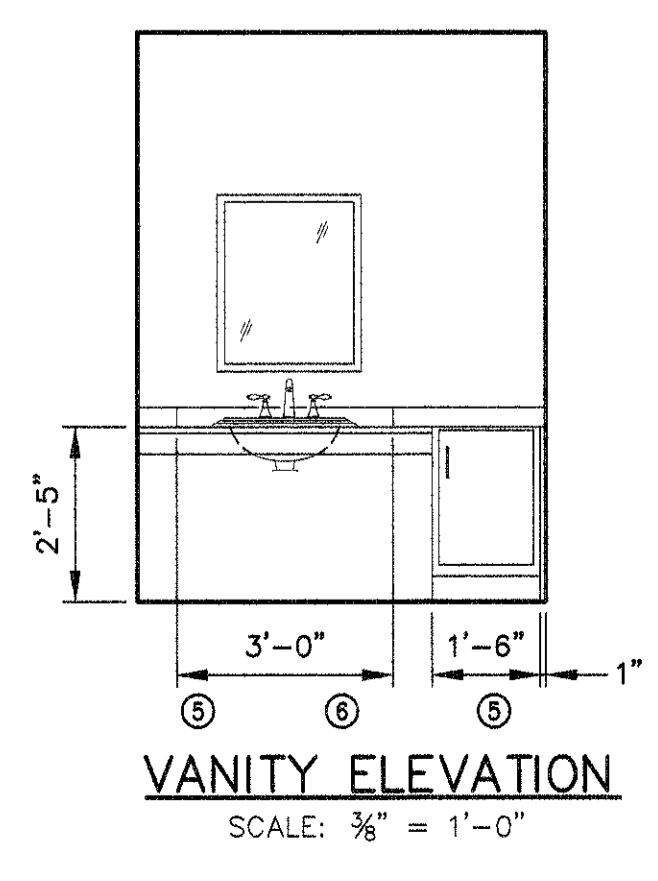
WORK BENCH ELEVATION
SCALE: 3/8" = 1'-0"

WORKBENCH FURNITURE AND EQUIPMENT SCHEDULE

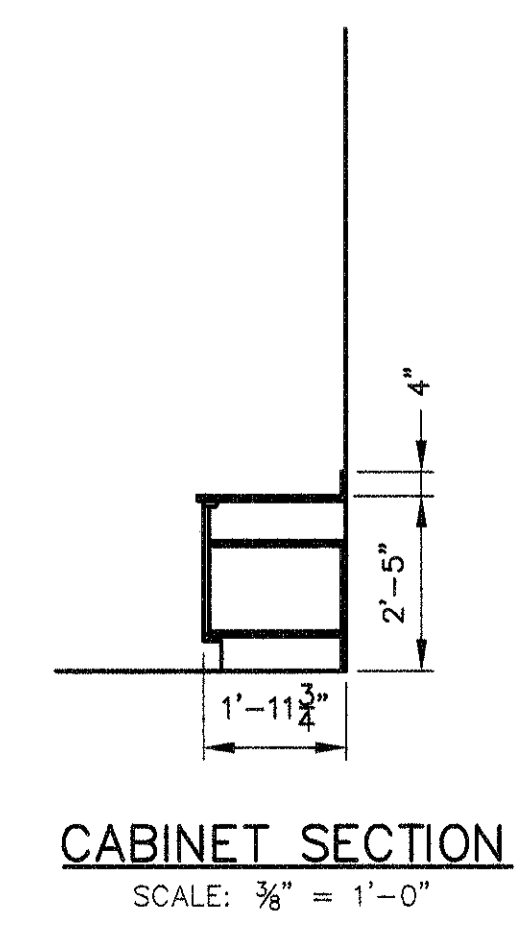
KEY	DESCRIPTION
1.	36" 2 DRAWER OPEN CABINET
2.	42" OPEN CABINET
3.	36" SINK CABINET
4.	42" ROLL-AWAY TOOLBOX
5.	48" FREE STANDING SHELVING UNIT



SECTION C-C
SCALE: 1/2" = 1'-0"



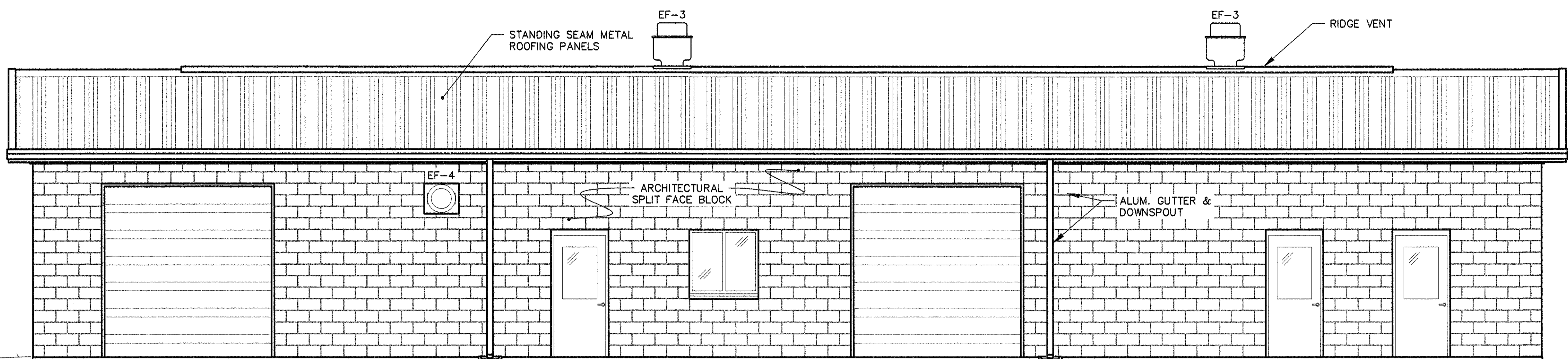
VANITY ELEVATION
SCALE: 3/8" = 1'-0"



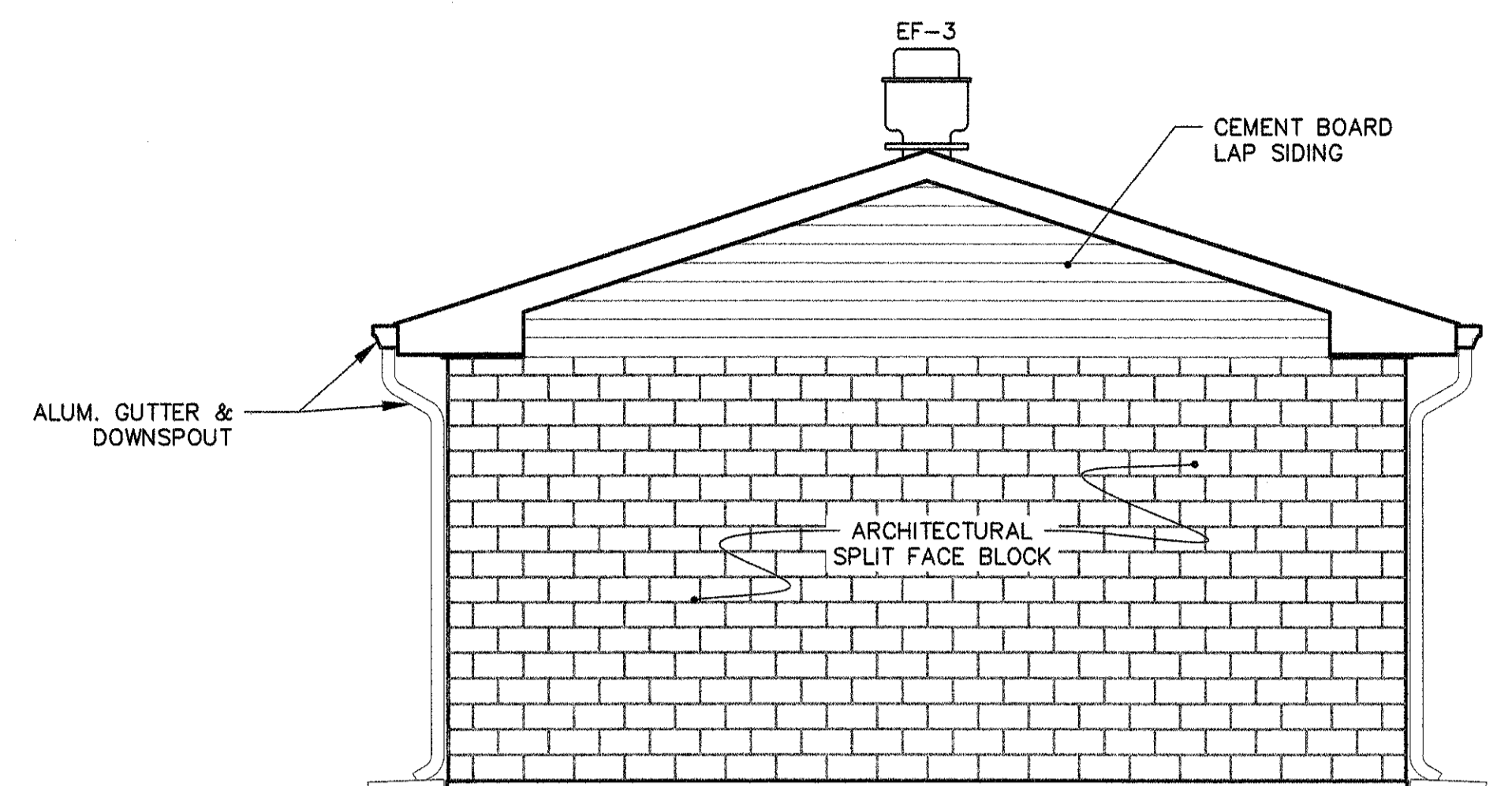
CABINET SECTION
SCALE: 3/8" = 1'-0"



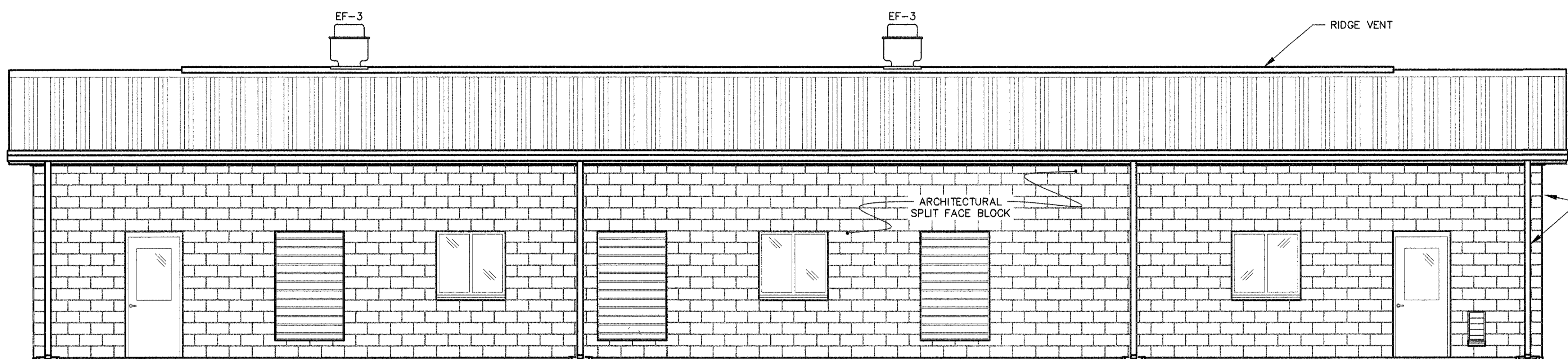
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017			
05/2017			
		BLOWER & MAINTENANCE BUILDING SECTIONS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
			SHEET 45 OF 77



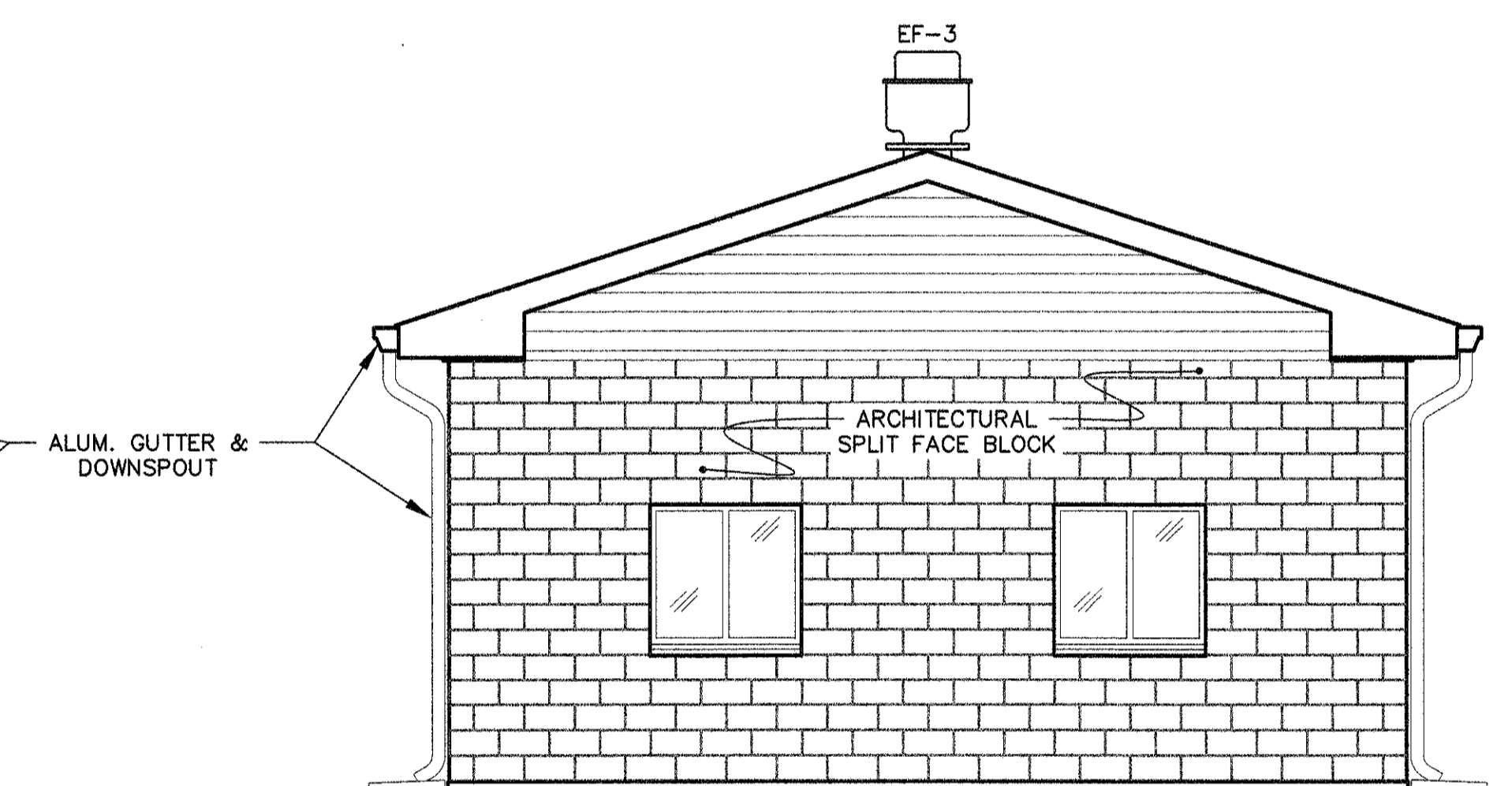
FRONT ELEVATION
SCALE: 1/4" = 1'-0"



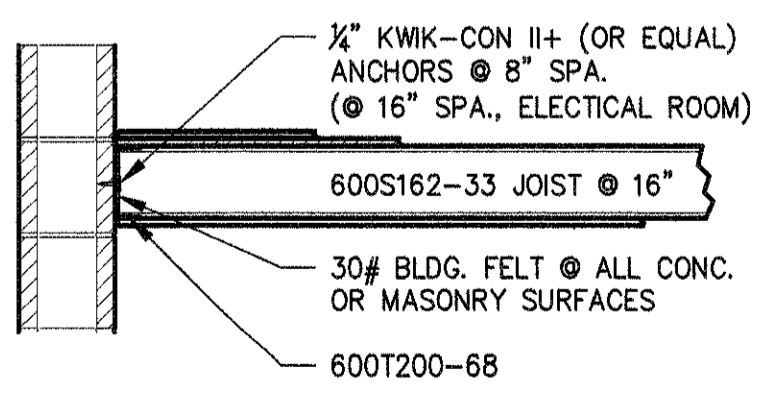
RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



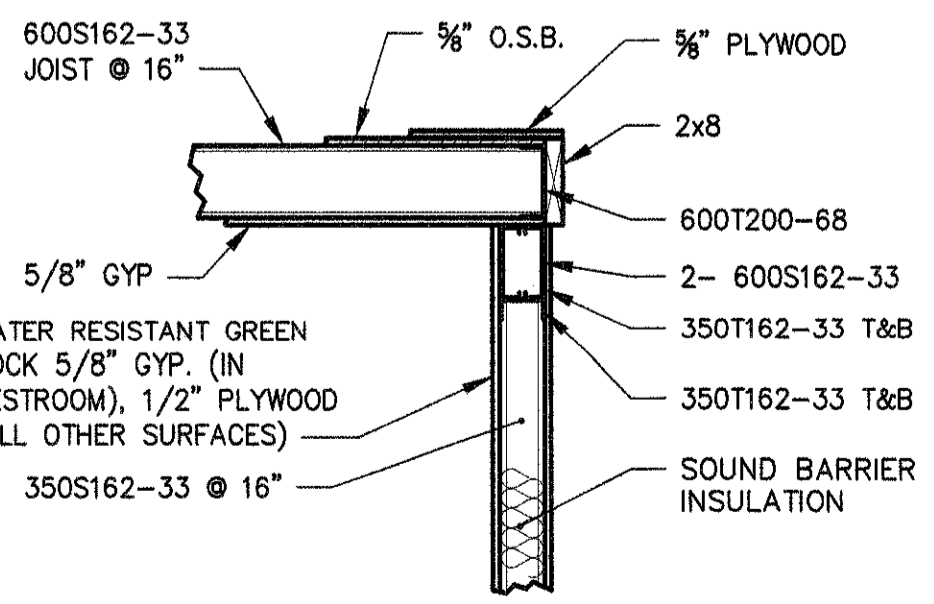
REAR ELEVATION
SCALE: 1/4" = 1'-0"



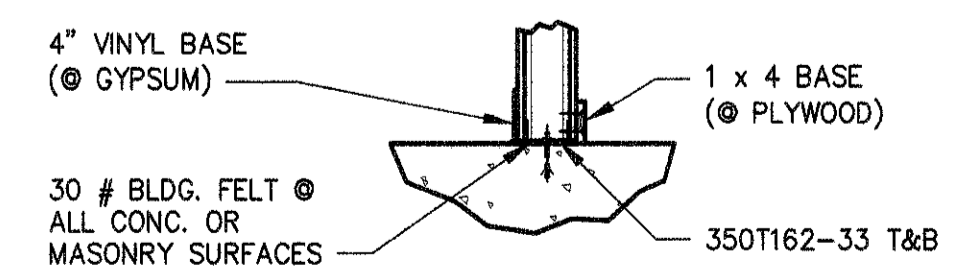
LEFT ELEVATION
SCALE: 1/4" = 1'-0"



DETAIL A
SCALE: 3/4" = 1'-0"



DETAIL B
SCALE: 3/4" = 1'-0"

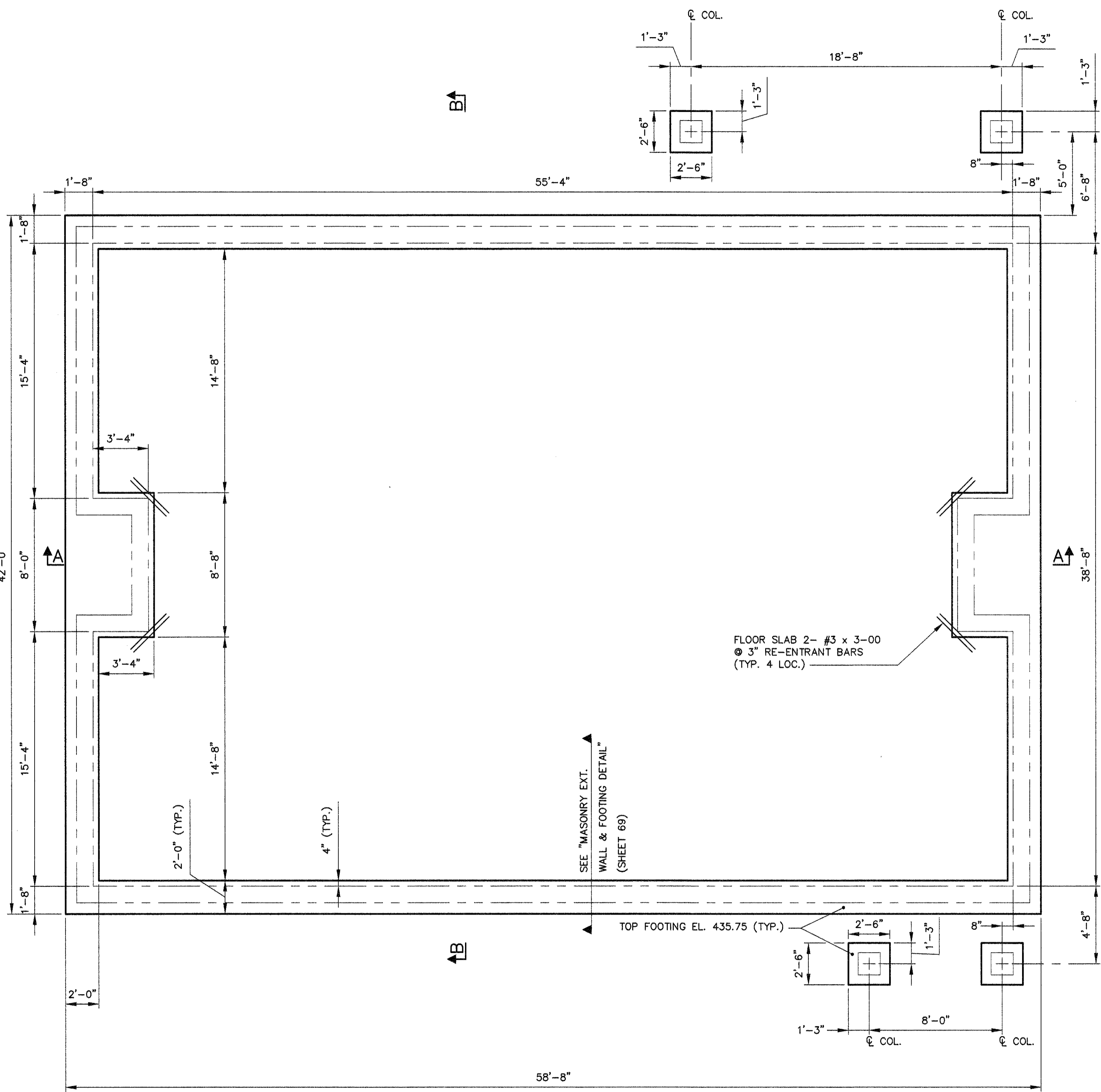


DETAIL C
SCALE: 3/4" = 1'-0"

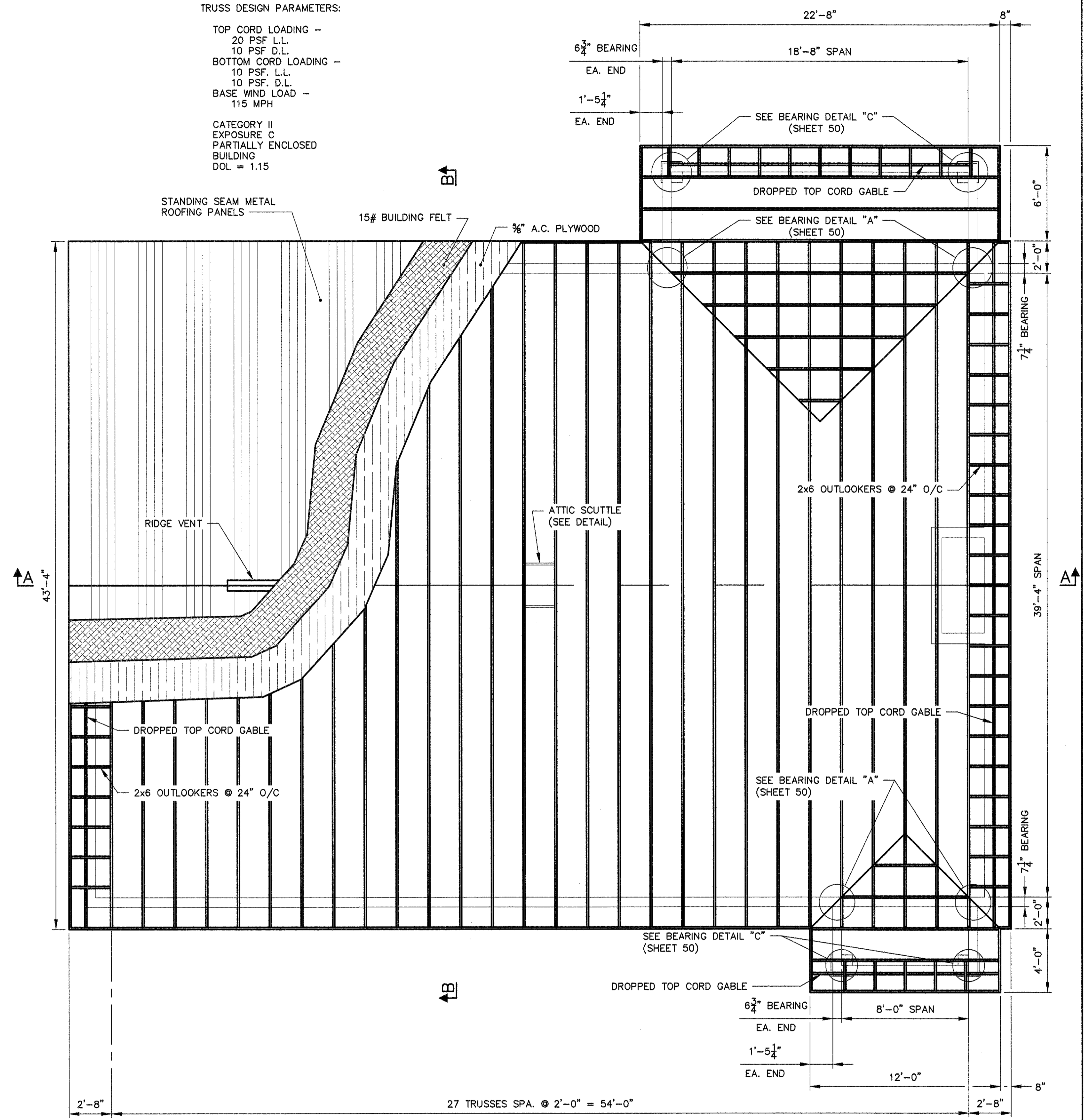


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
05/2017		BLOWER & MAINTENANCE BUILDING ELEVATIONS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 46 OF 77

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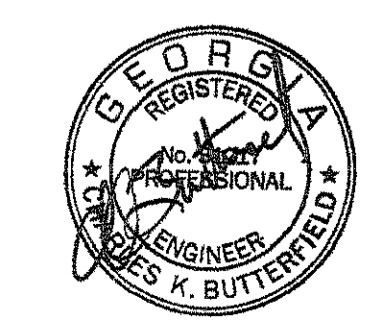


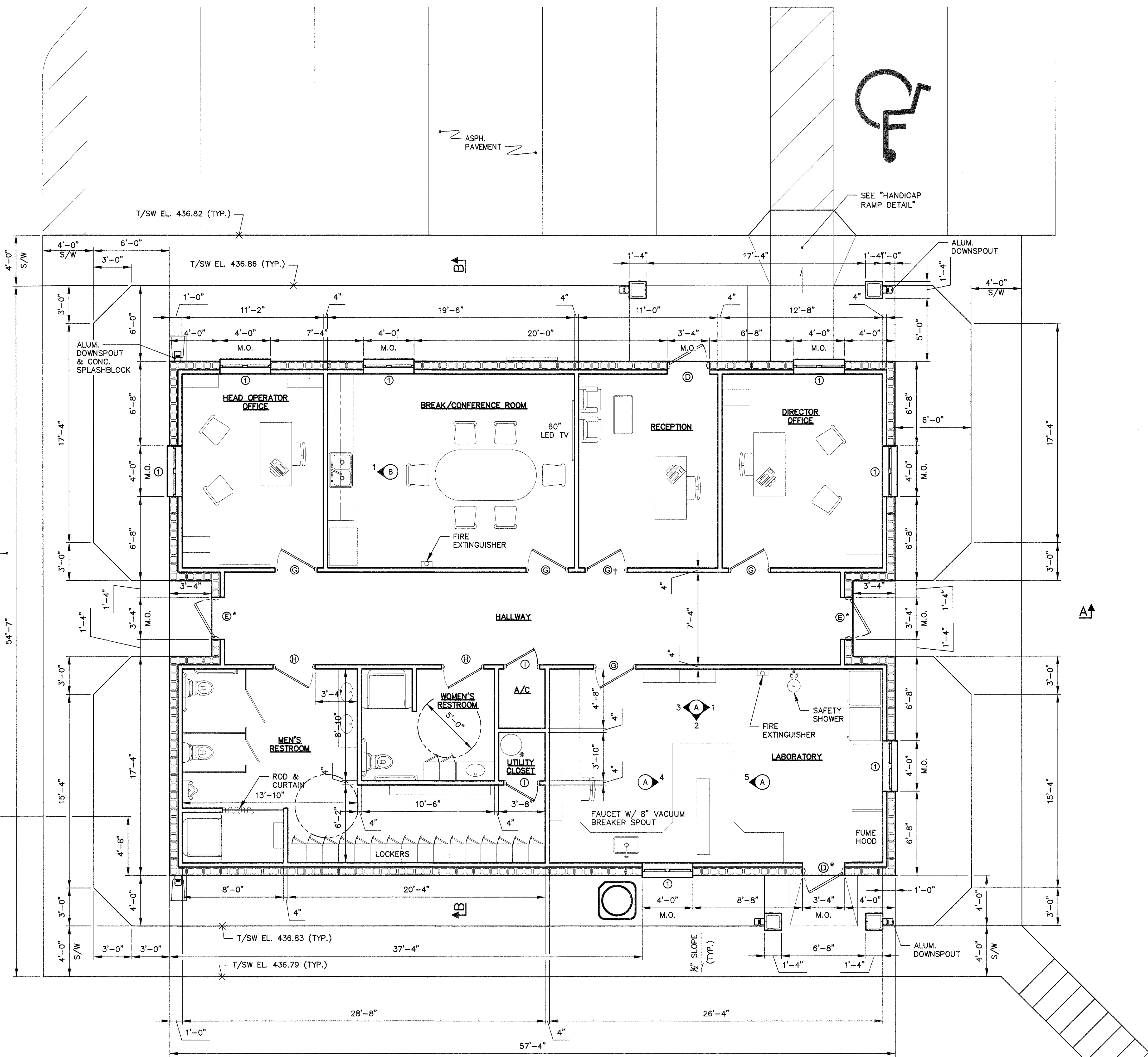
TRUSS DESIGN PARAMETERS:
 TOP CORD LOADING -
 20 PSF L.L.
 10 PSF D.L.
 BOTTOM CORD LOADING -
 10 PSF L.L.
 10 PSF D.L.
 BASE WIND LOAD -
 115 MPH
 CATEGORY II
 EXPOSURE C
 PARTIALLY ENCLOSED
 BUILDING
 DOL = 1.15



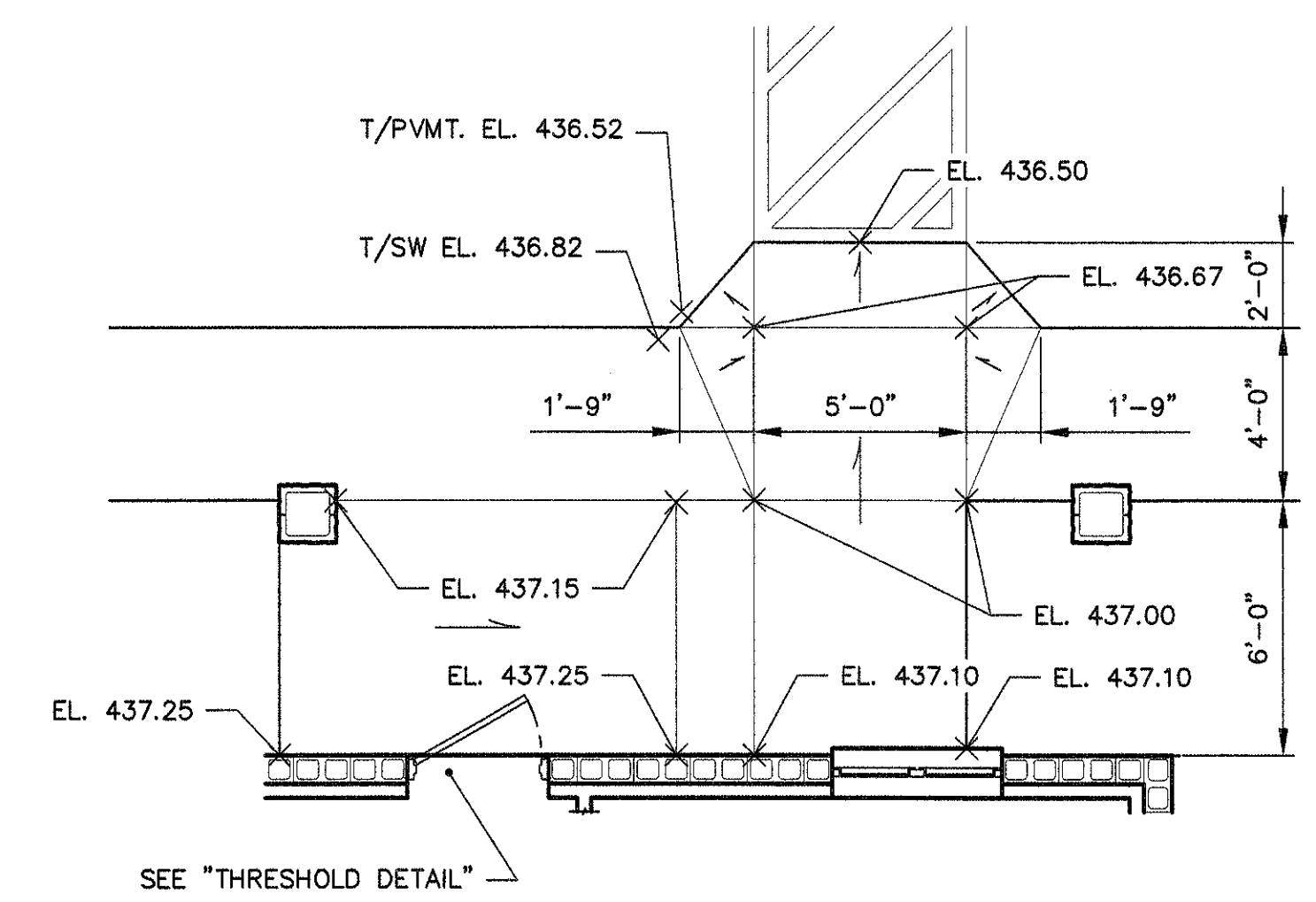
NOTE: ROOF MFR. SHALL PROVIDE SOFIT VENTS & RECOMMEND SPACING

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
CONTROL BUILDING FOUNDATION & ROOF PLANS			
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 47 OF 77





FLOOR PLAN
 SCALE: 1/8" = 1'-0"



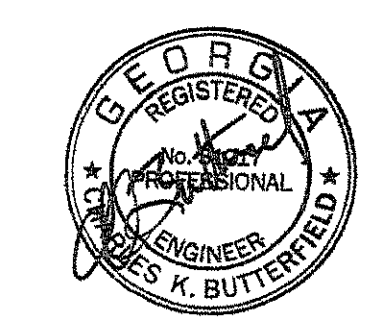
HANDICAP RAMP DETAIL
 SCALE: 1/2" = 1'-0"

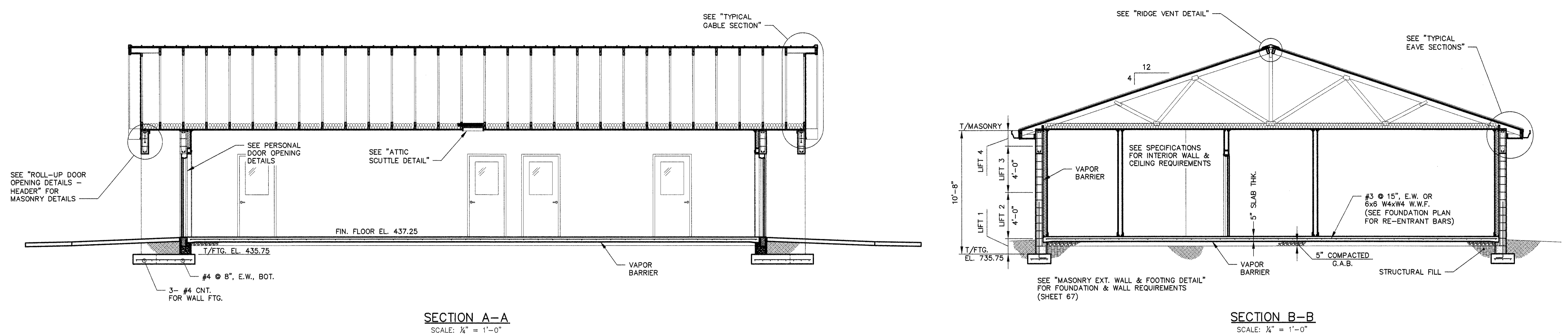
ROOM FINISH SCHEDULE			
ROOM	WALLS	CEILING	FLOORING
DIRECTOR'S OFFICE	PAINTED SHEET ROCK W/ 3' HIGH PAINTED PLYBEAD WAINSCOT WOODEN CHAIR RAIL AND BASE BOARD (SOUND PROOFING INTERIOR WALLS)	TEXTURE SPONGE SHEET ROCK	CARPET*
HEAD OPERATOR'S OFFICE	PAINTED SHEET ROCK W/ 3' HIGH PAINTED PLYBEAD WAINSCOT WOODEN CHAIR RAIL AND BASE BOARD	TEXTURE SPONGE SHEET ROCK	LUX. VINYL TILE*
RECEPTION	PAINTED SHEET ROCK W/ 3' HIGH PAINTED PLYBEAD WAINSCOT WOODEN CROWN, CHAIR RAIL, AND BASE BOARD	TEXTURE SPONGE SHEET ROCK	CARPET*
MEN'S RESTROOM	PAINTED GREEN ROCK W/ VINYL BASE BOARD	TEXTURE SPONGE SHEET ROCK	LUX. VINYL TILE*
WOMEN'S RESTROOMS	PAINTED GREEN ROCK W/ VINYL BASE BOARD	TEXTURE SPONGE SHEET ROCK	LUX. VINYL TILE*
LAB AND HALLWAY	PAINTED GREEN ROCK W/ VINYL BASE BOARD	TEXTURE SPONGE SHEET ROCK	LUX. VINYL TILE*
BREAK ROOM	PAINTED SHEET ROCK W/ 3' HIGH PAINTED PLYBEAD WAINSCOT WOODEN CHAIR RAIL AND BASE BOARD	TEXTURE SPONGE SHEET ROCK	LUX. VINYL TILE*

FINISH SCHEDULE	
LOCATION	FINISH
DOOR, TRIM, & FRAME, SIDING, SOFFIT, FASCIA	PAINT *
METAL ROOF	KYNAR FACTORY COAT*

* SUBMIT COLOR SAMPLES FOR SELECTION BY OWNER
 NOTE: APPLY WATER REPELLENT BARRIER, CHEMPROBE OR EQUAL TO ALL EXTERNAL CMU'S

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		CONTROL BUILDING PLANS & DETAILS	
DRAWN		CHECKED	
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic			SHEET
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			48 OF 77





SECTION A-A
SCALE: 1/4" = 1'-0"

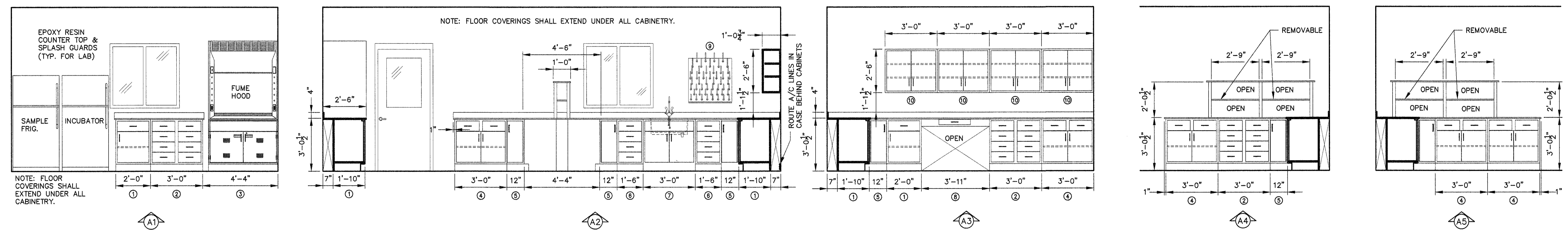
SECTION B-B
SCALE: 1/4" = 1'-0"

LABORATORY FURNITURE AND EQUIPMENT SCHEDULE

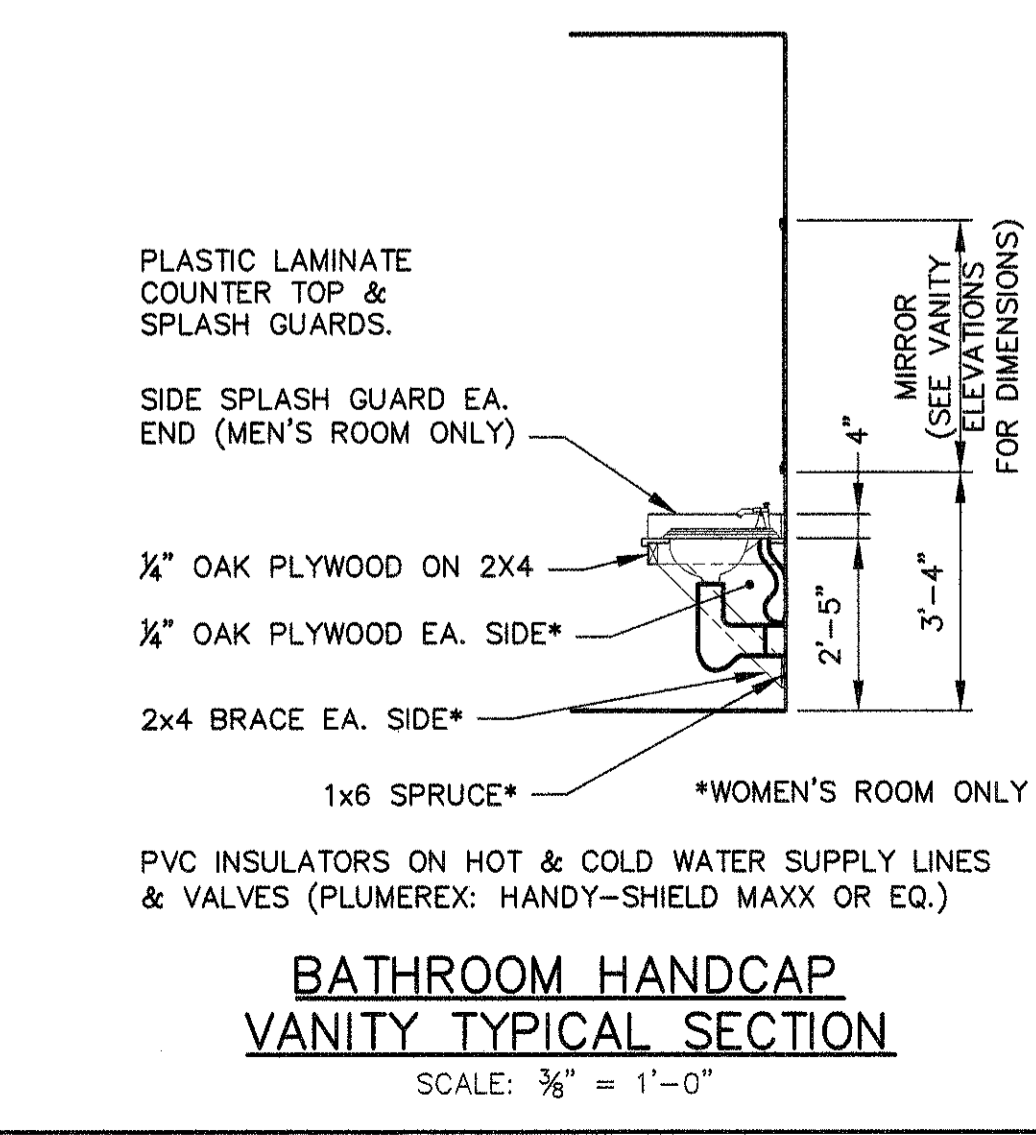
KEY	DESCRIPTION
1.	1 DOOR - 1 DRAWER CABINET 24"
2.	8 DRAWER CABINET 36"
3.	FUME HOOD & 2 DOOR CABINET
4.	2 DOOR - 2 DRAWER CABINET 36"
5.	1 DOOR CABINET 12"
6.	4 DRAWER CABINET 18"
7.	SINK CABINET 36"
8.	1 DRAWER DESKTOP W/ CHAIR ACCESS 47"
9.	DRYING RACK
10.	2 DOOR OVERHEAD CABINET 36"

BREAKROOM FURNITURE AND EQUIPMENT SCHEDULE

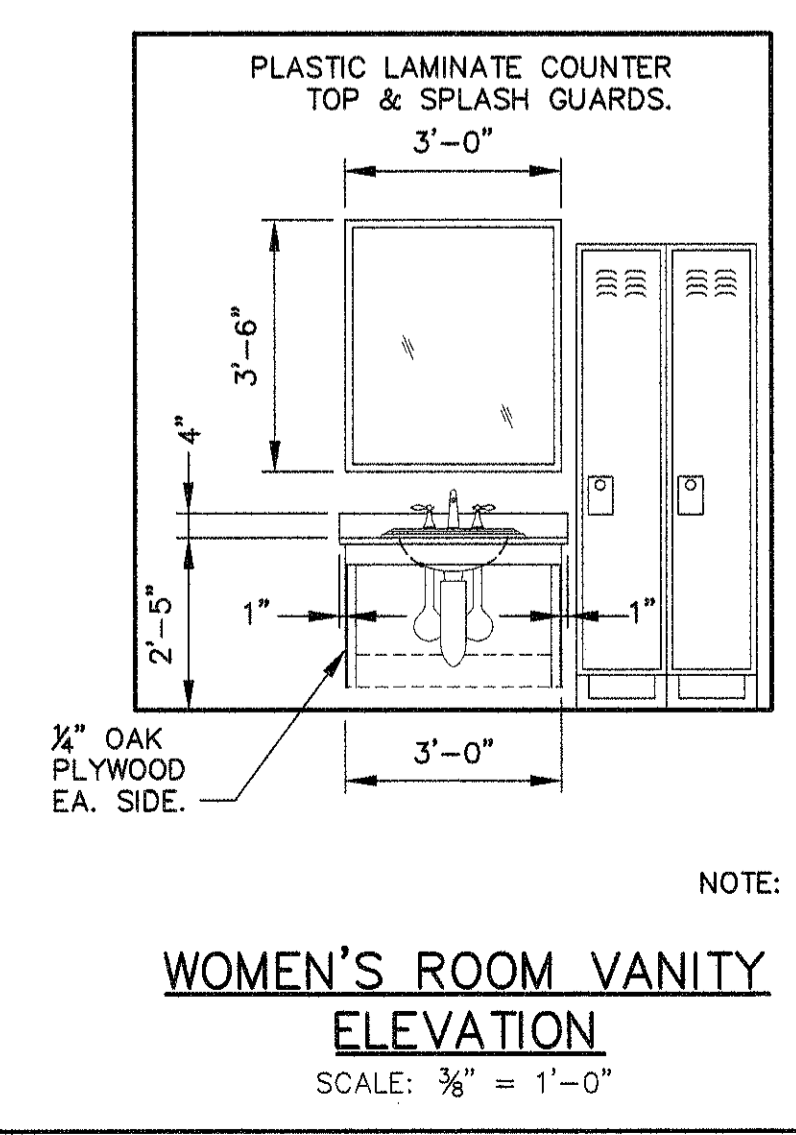
KEY	DESCRIPTION
B1.	1 DOOR - 1 DRAWER CABINET 18"
B2.	SINK CABINET 36"
B3.	2 DOOR - 2 DRAWER CABINET 36"
B4.	1 DOOR OVERHEAD CABINET 18"
B5.	2 DOOR OVERHEAD CABINET 36"
B6.	1 DOOR OVERHEAD CABINET 24"
B7.	2 DOOR OVERHEAD CABINET 30"



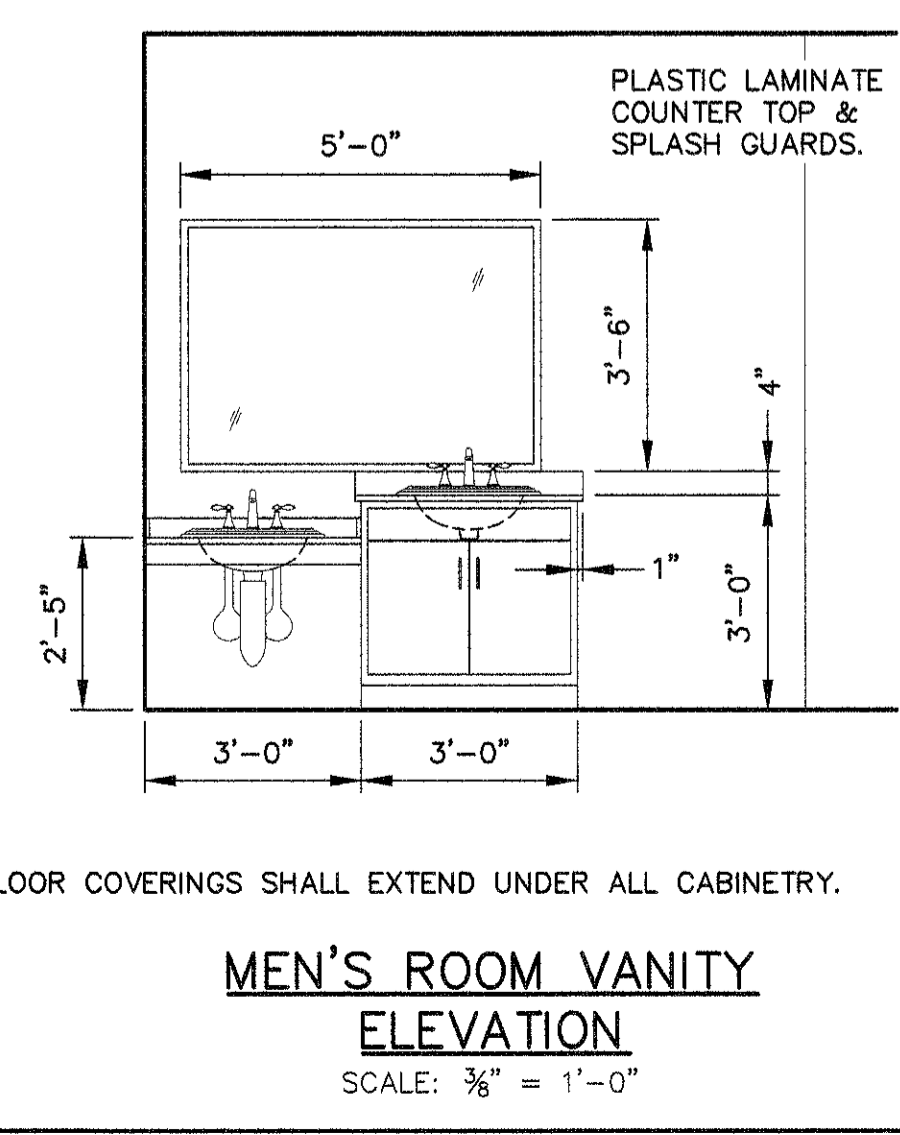
LABORATORY ELEVATIONS
SCALE: 3/8" = 1'-0"



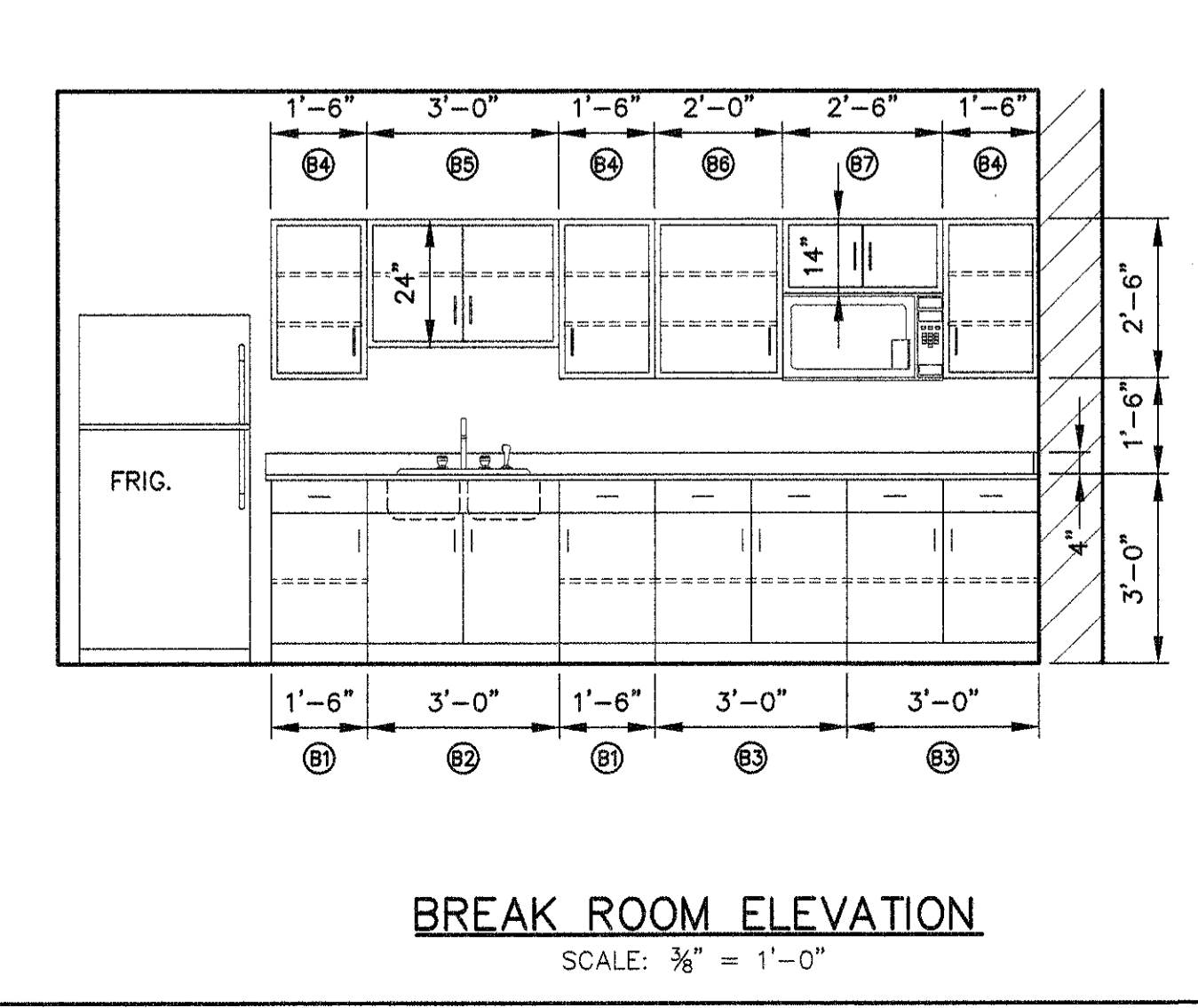
BATHROOM HANDCAP VANITY TYPICAL SECTION
SCALE: 3/8" = 1'-0"



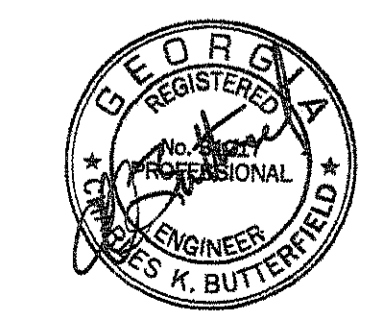
WOMEN'S ROOM VANITY ELEVATION
SCALE: 3/8" = 1'-0"



MEN'S ROOM VANITY ELEVATION
SCALE: 3/8" = 1'-0"

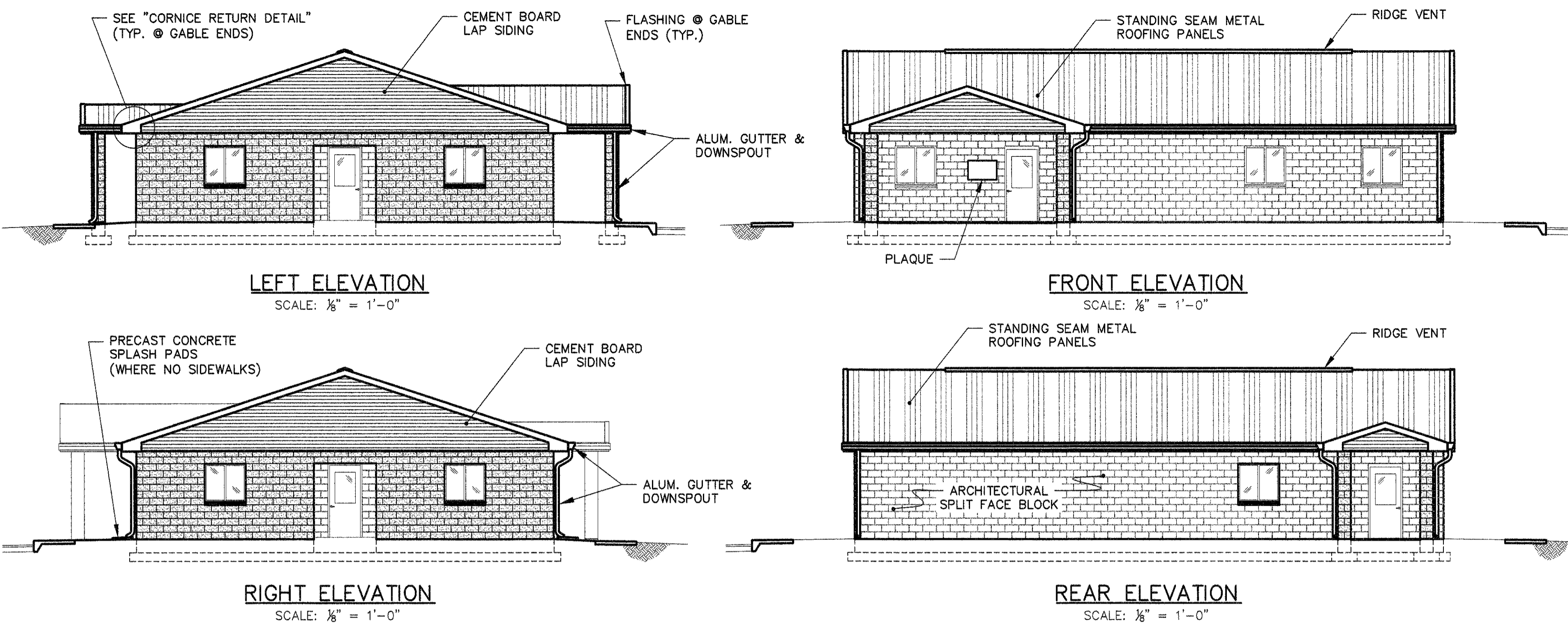


BREAK ROOM ELEVATION
SCALE: 3/8" = 1'-0"



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		CONTROL BUILDING SECTIONS & DETAILS	
05/2017			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 49 OF 77	

CBUTTERFIELD



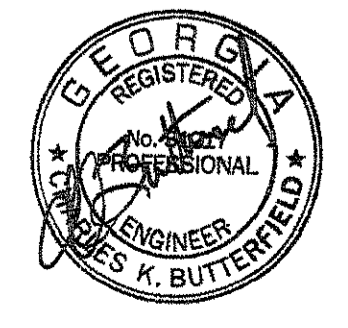
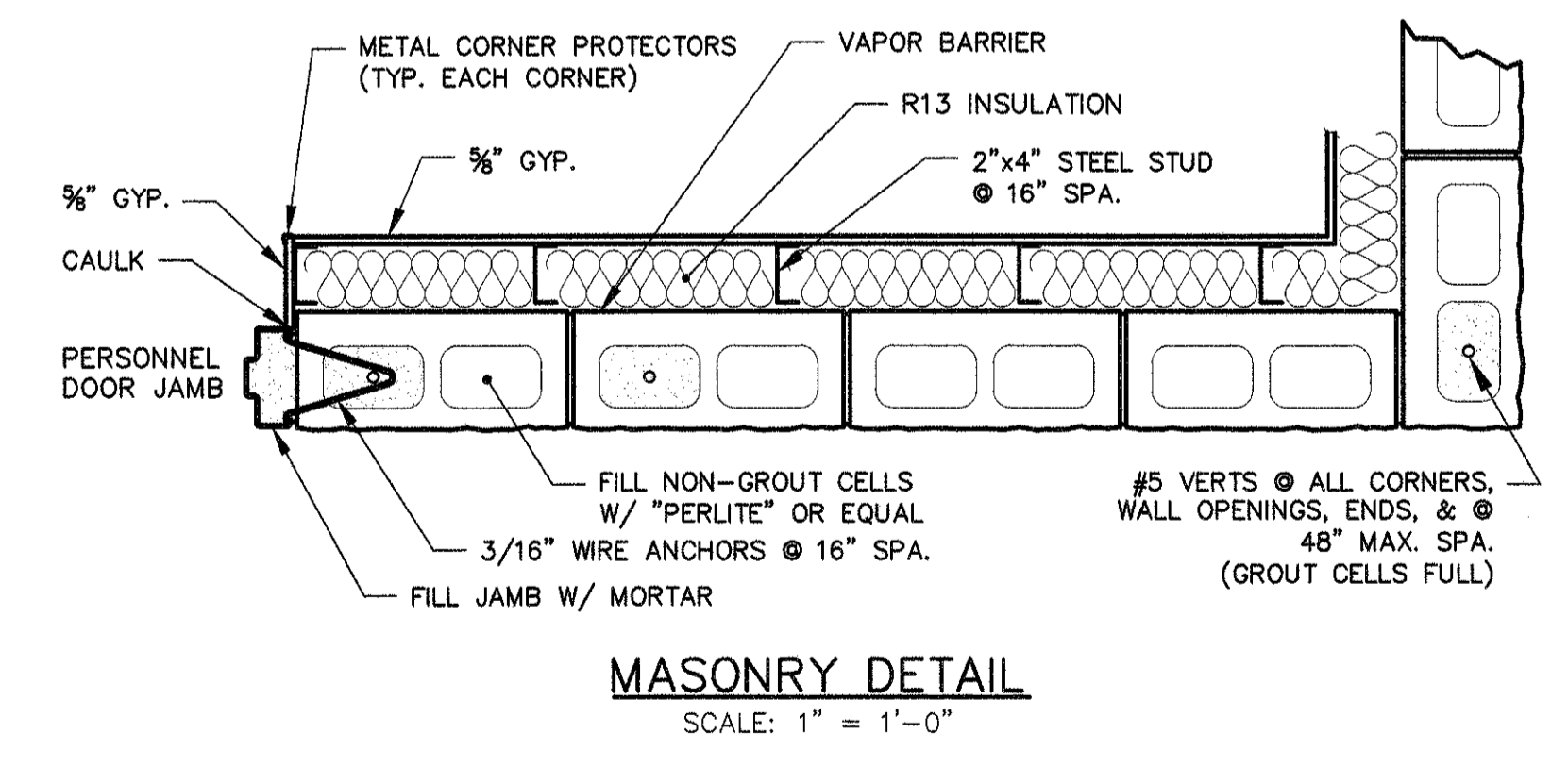
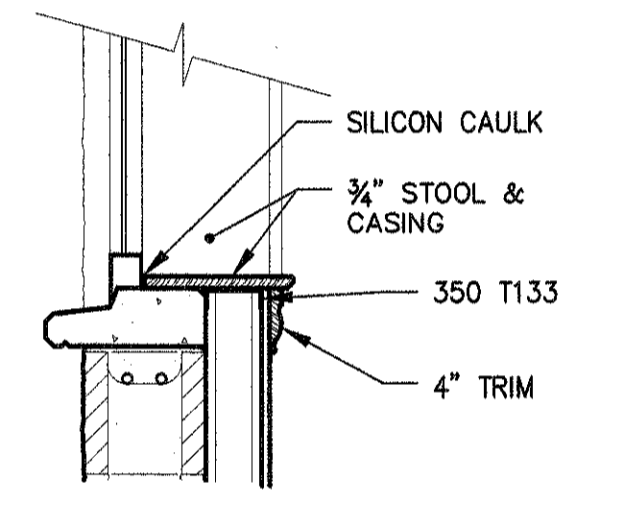
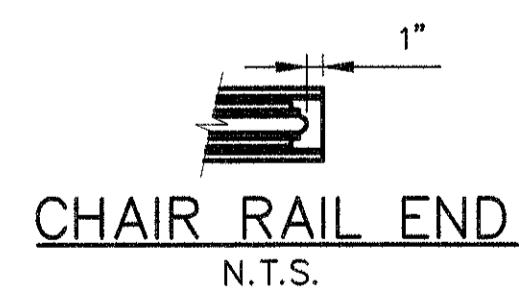
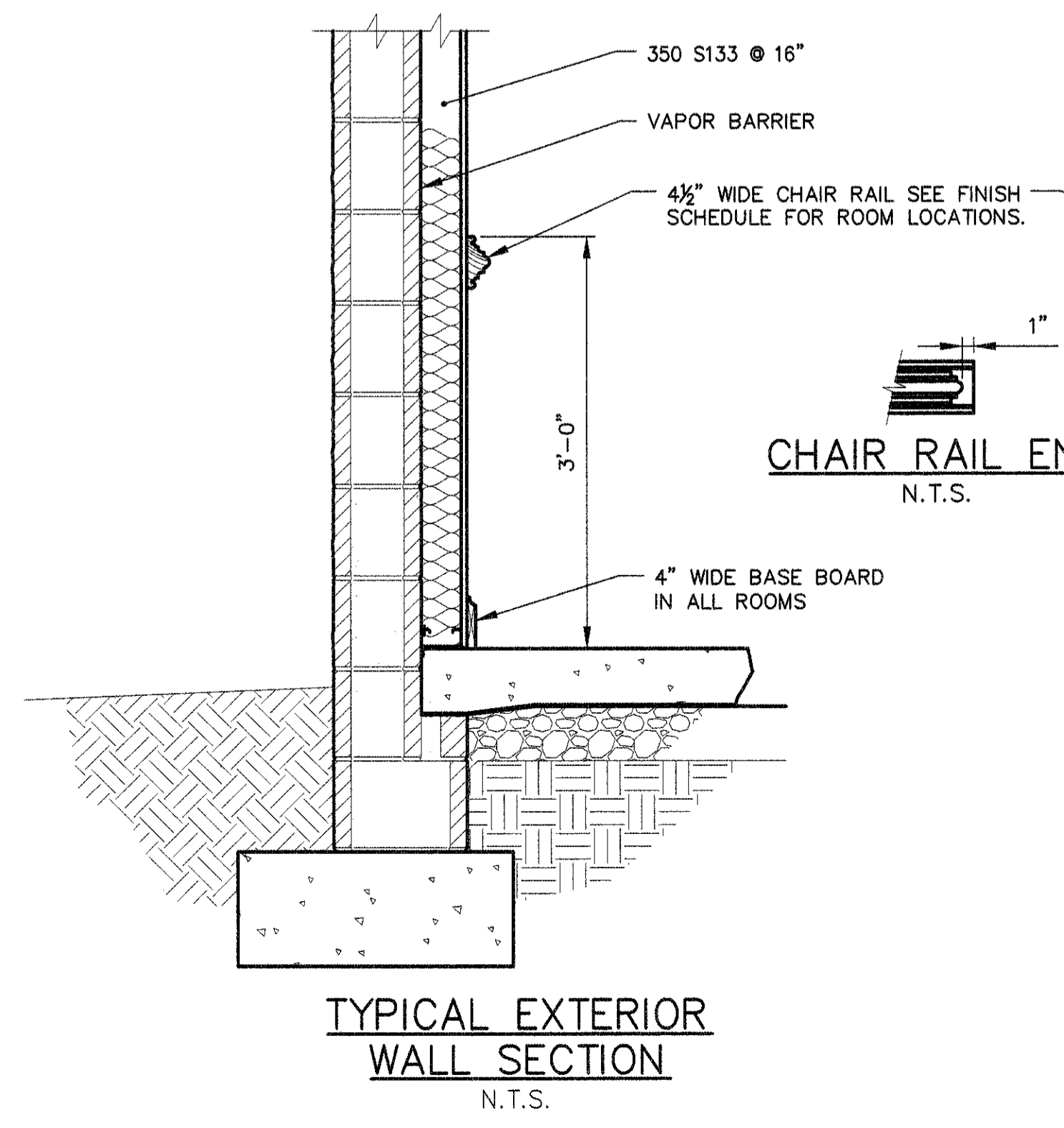
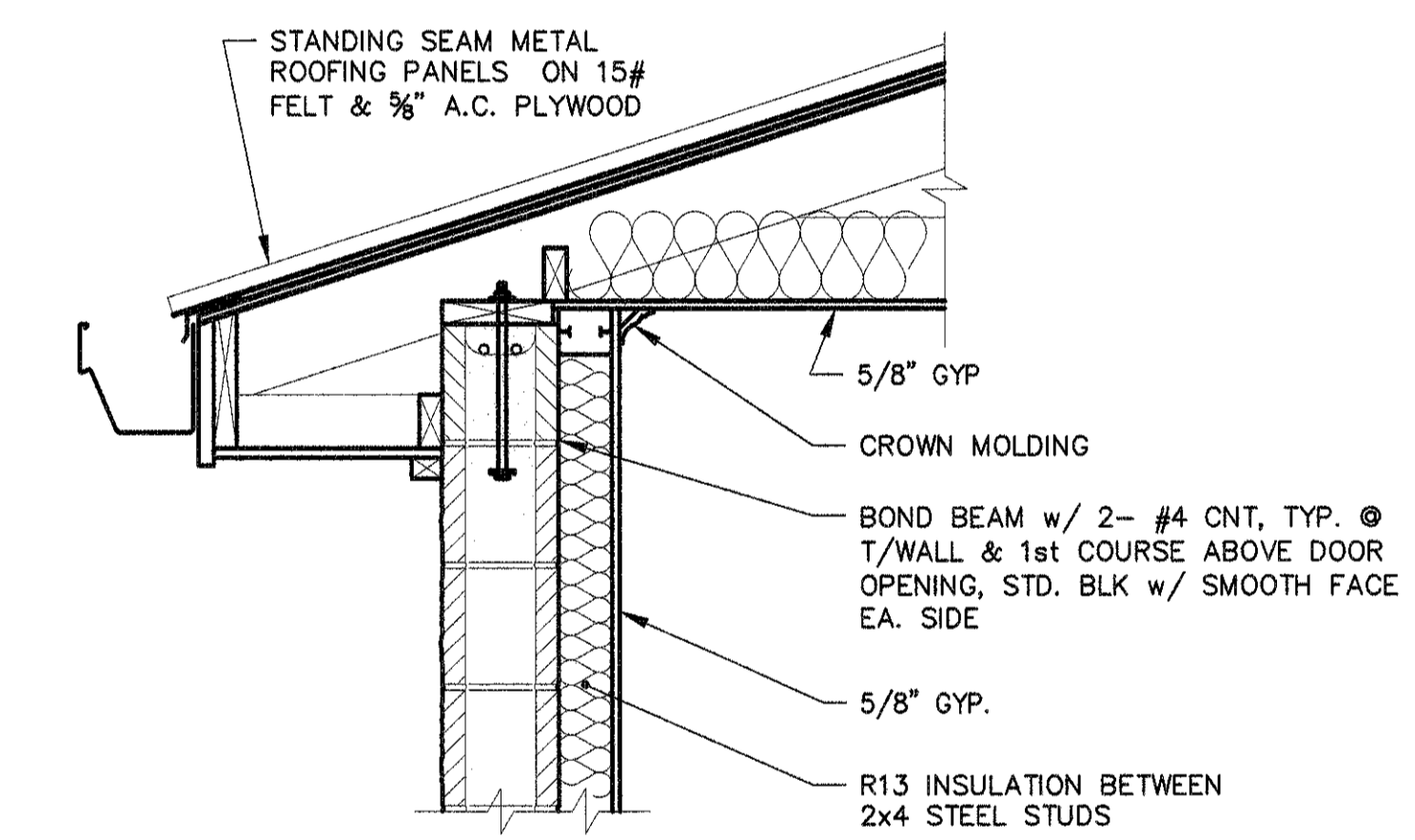
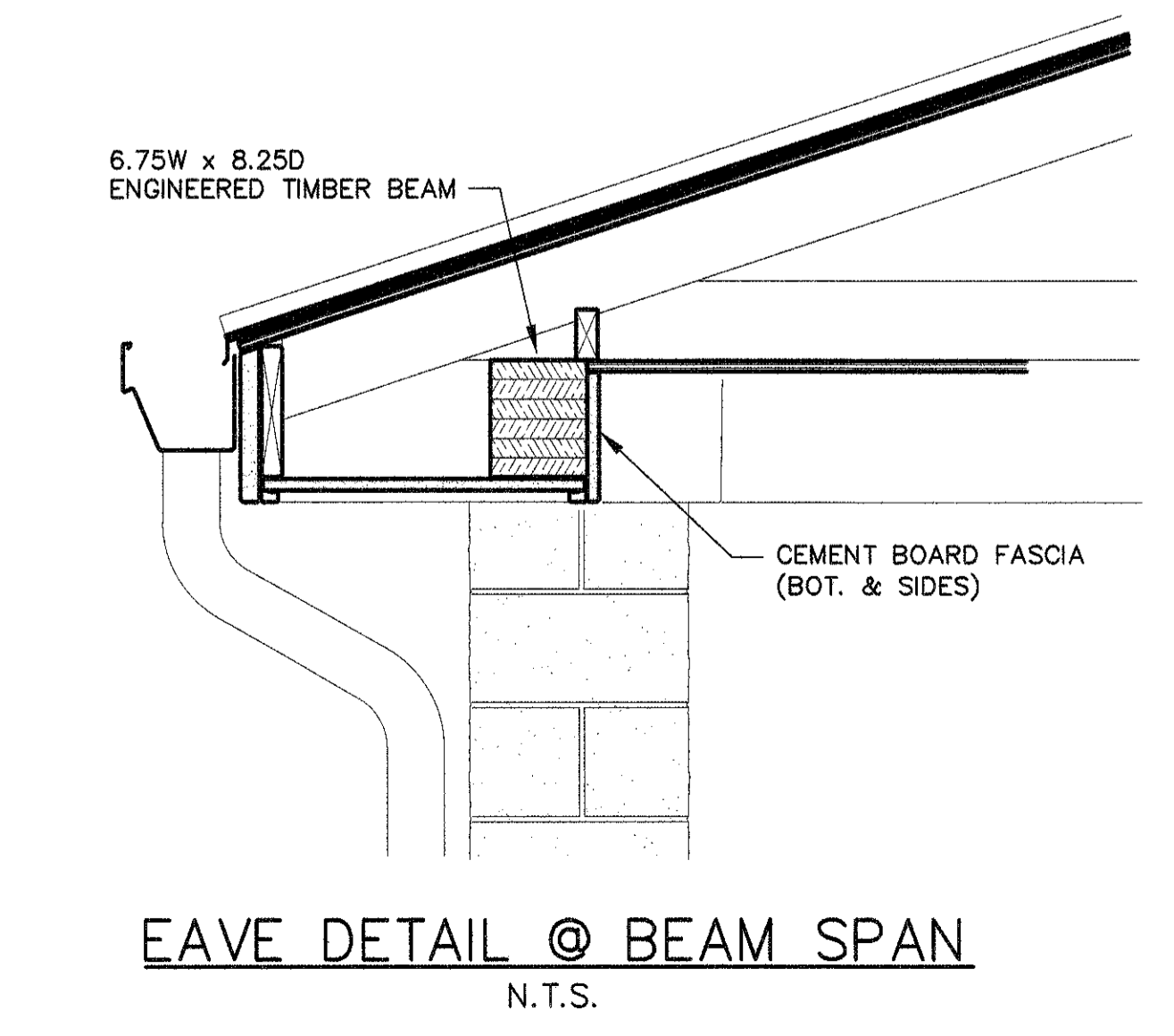
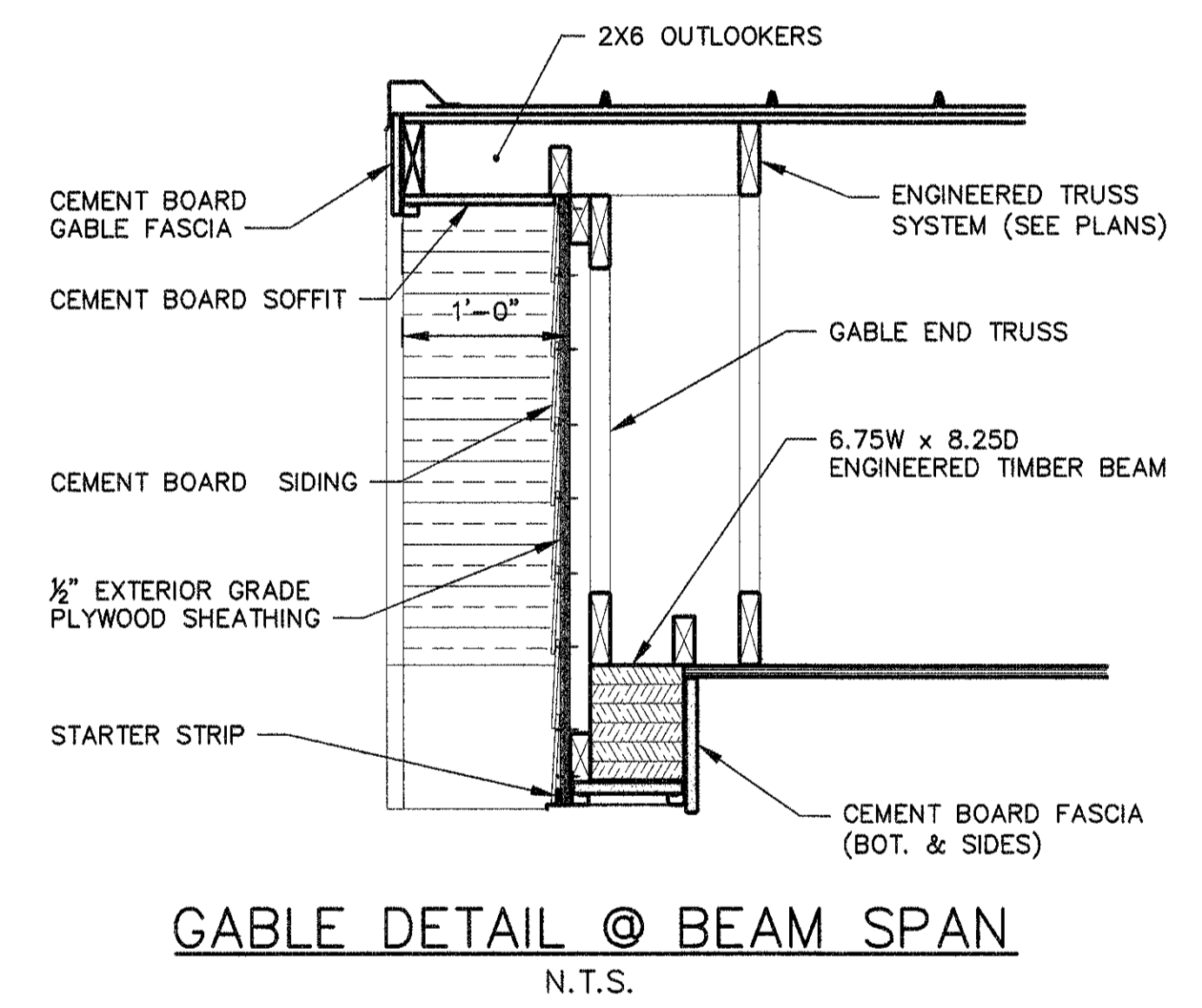
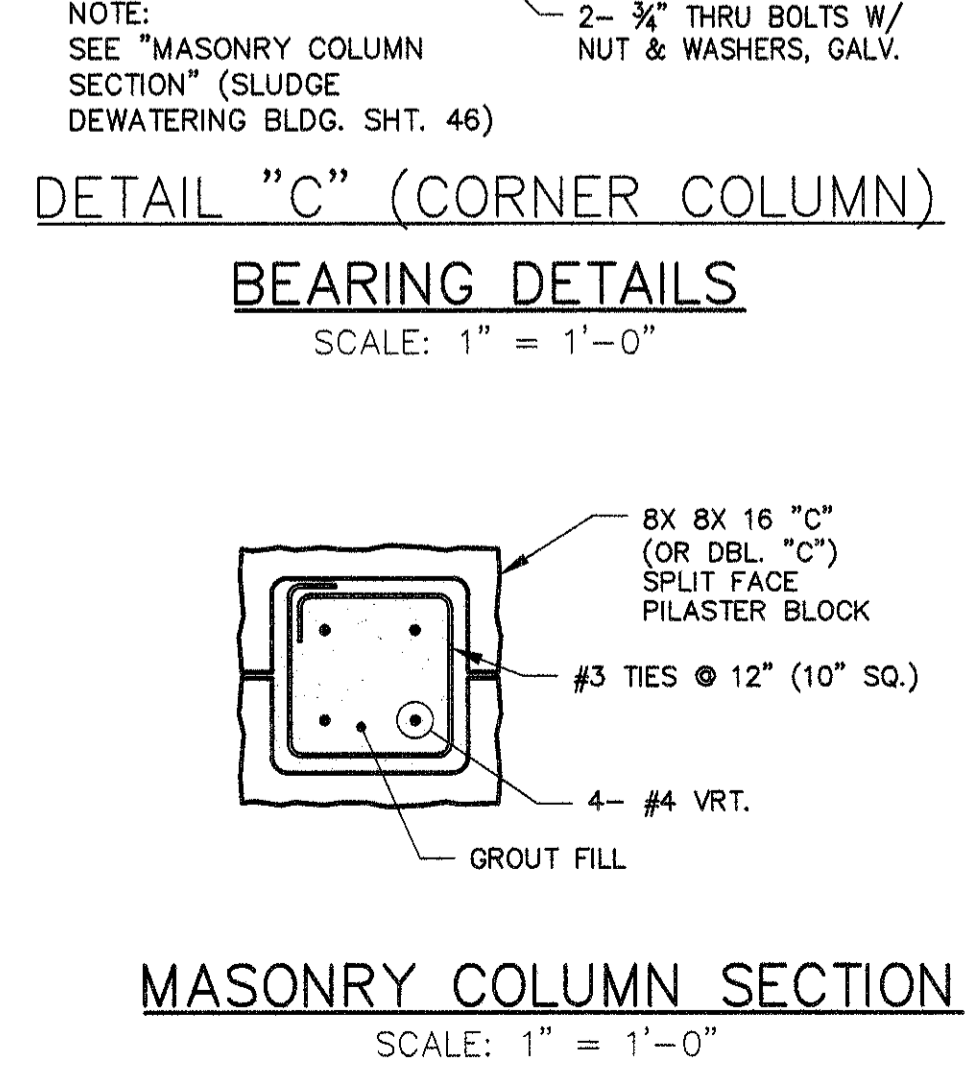
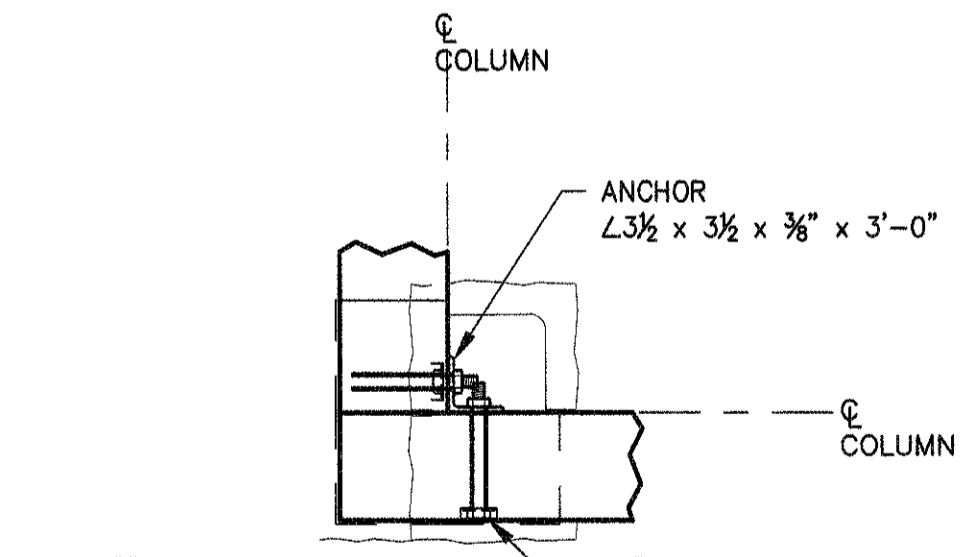
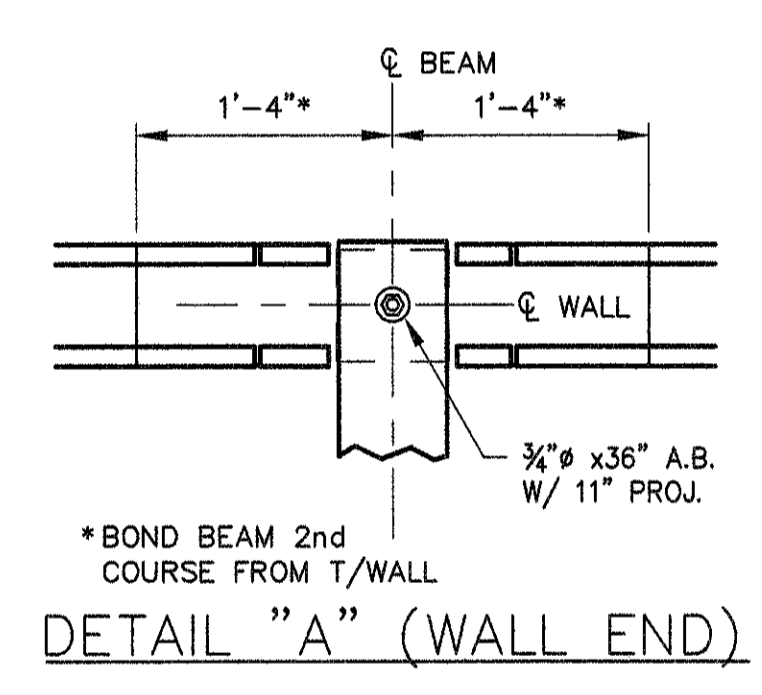
2'-10"

CITY OF GROVETOWN, GEORGIA
WATER POLLUTION CONTROL PLANT
APRIL 2017
CITY COUNCIL
GARY JONES, MAYOR

ERIC BLAIR SYLVIA MARTIN ENGINEER G. BEN TURNIPSEED ENGINEERS ATLANTA - AUGUSTA GEORGIA	VICKIE COOK DENNIS O. TRUDEAU CONTRACTOR ### ### ###
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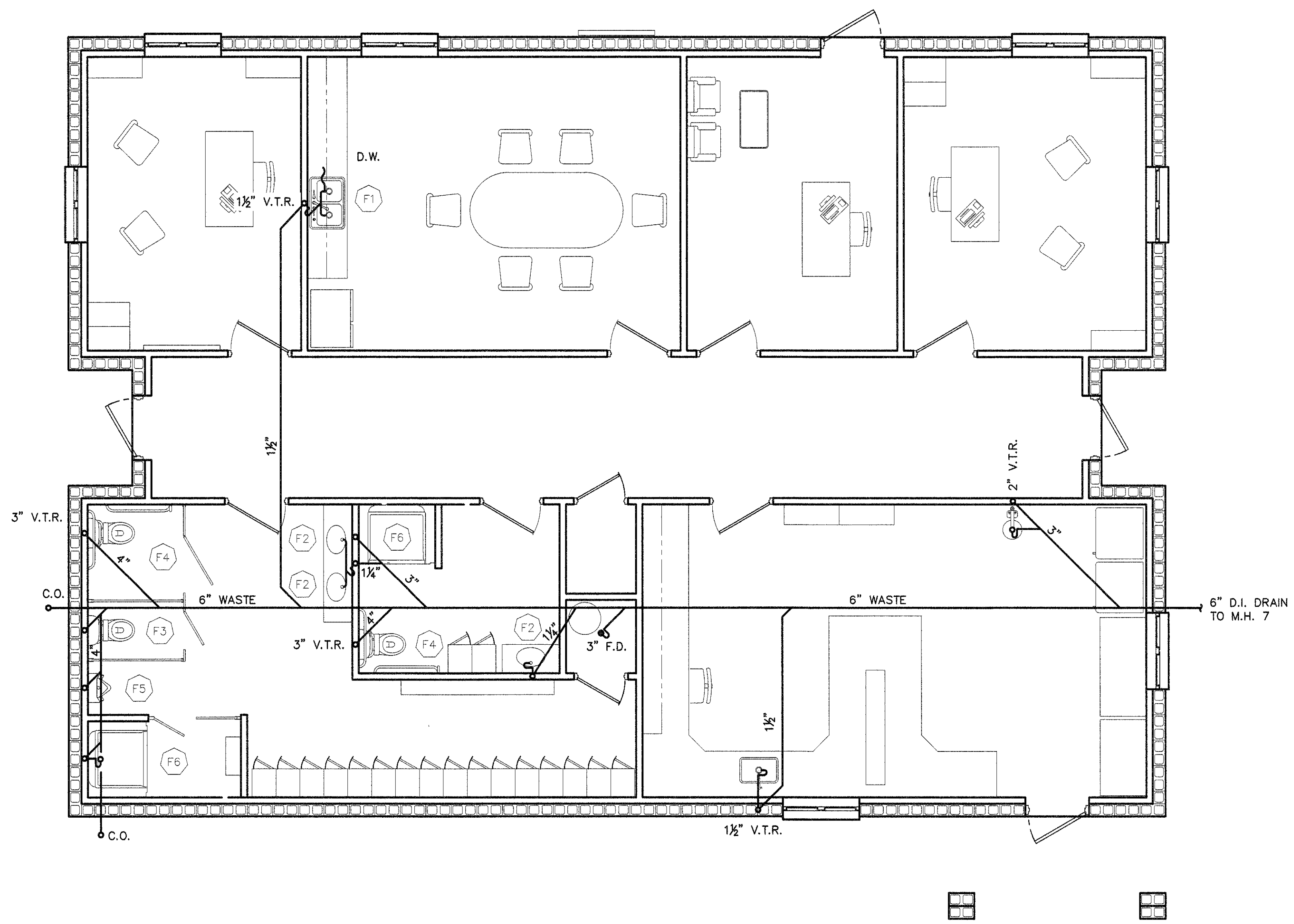
1'-6 1/2"

PLAQUE DETAIL
SCALE: 3" = 1'-0"

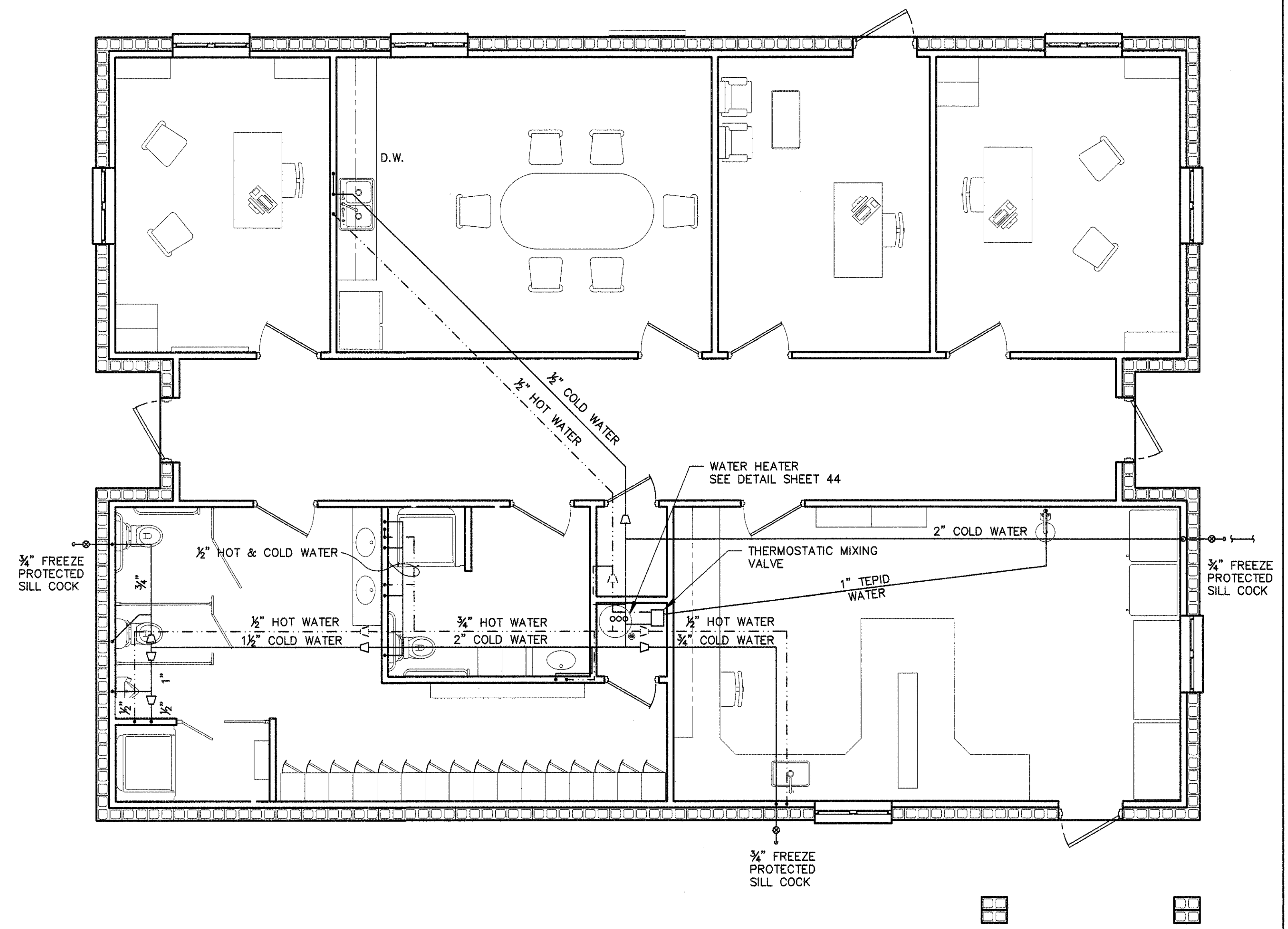


REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II		
04/2017	CONTROL BUILDING ELEVATIONS & DETAILS		
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 50 OF 77

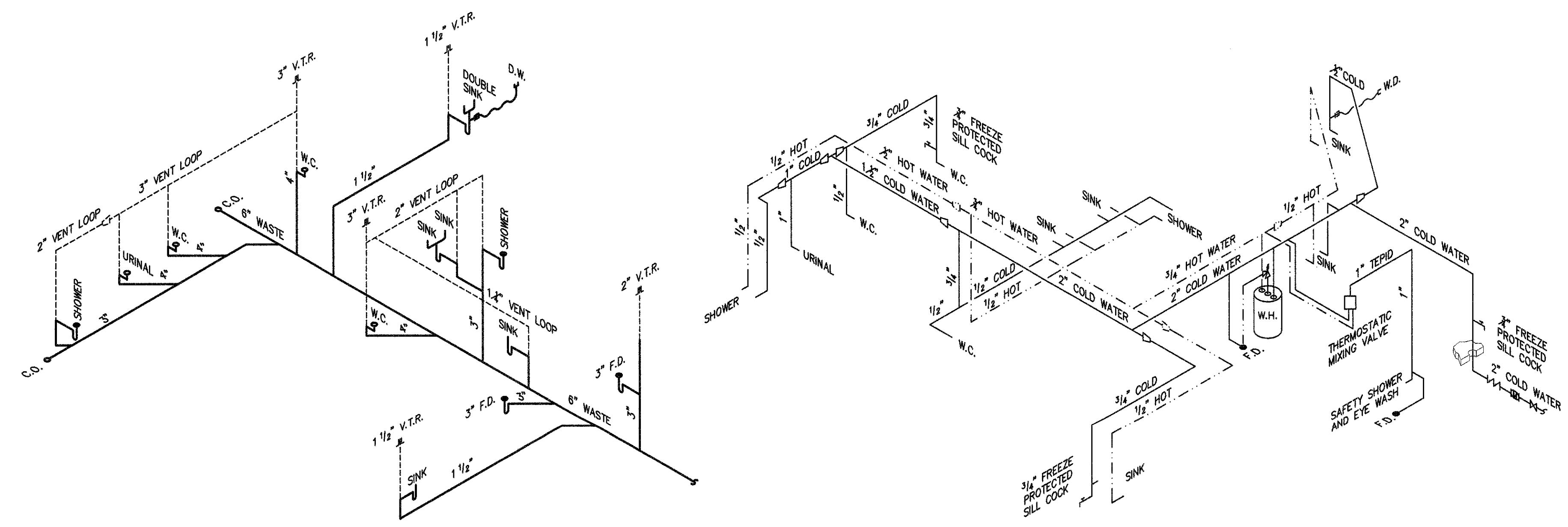
P:\grovetown\141946 wpcp\Drawings\Phase 2\141946 Control Building.dwg
 P:\grovetown\141946 wpcp\Drawings\Phase 2\141946 Control Building.dwg 9/1/2010



WASTE PIPING PLAN
SCALE: 1/4" = 1'-0"



WATER SUPPLY PIPING PLAN
SCALE: 1/4" = 1'-0"

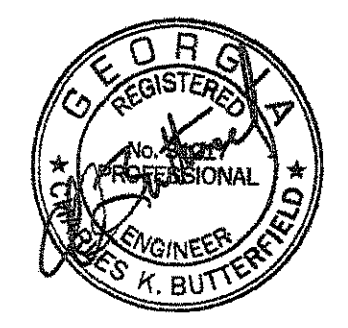


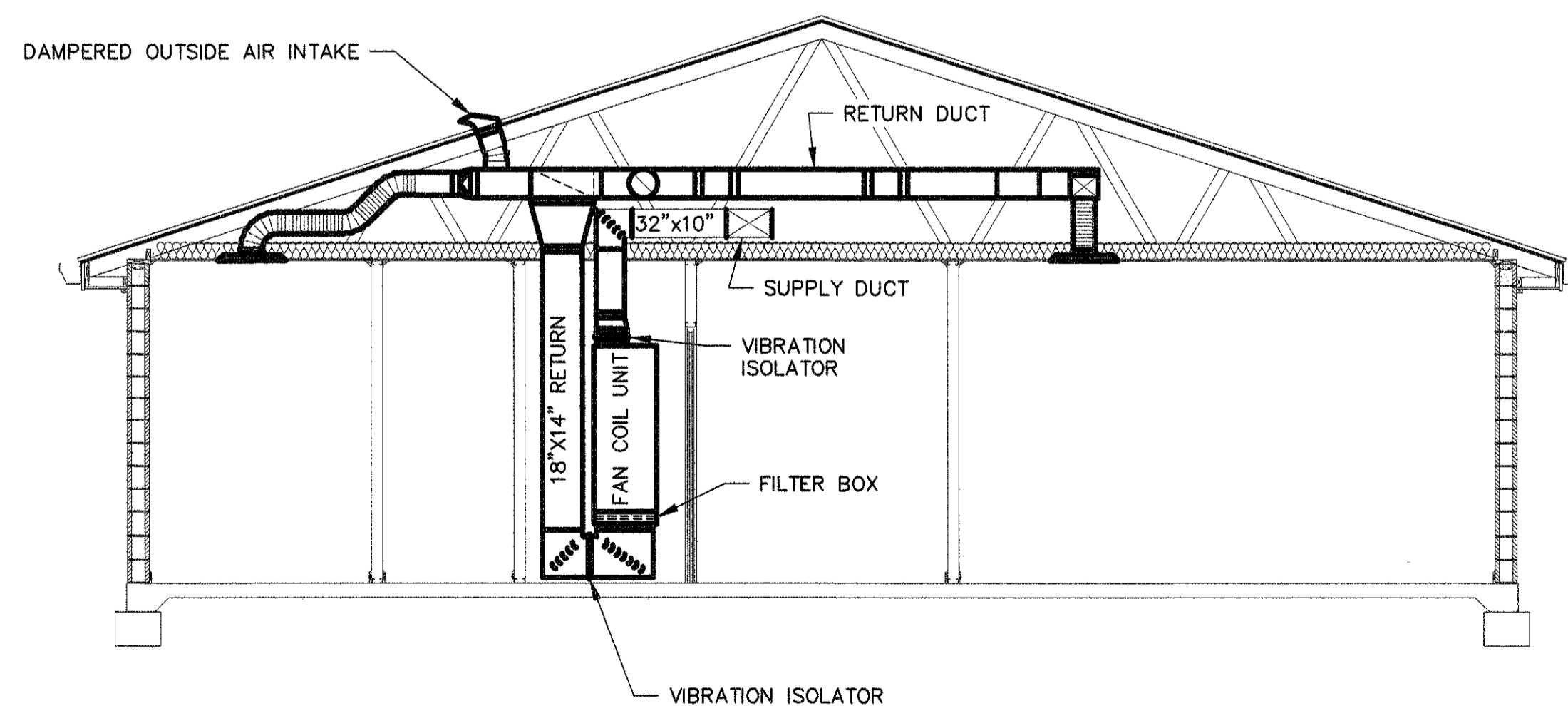
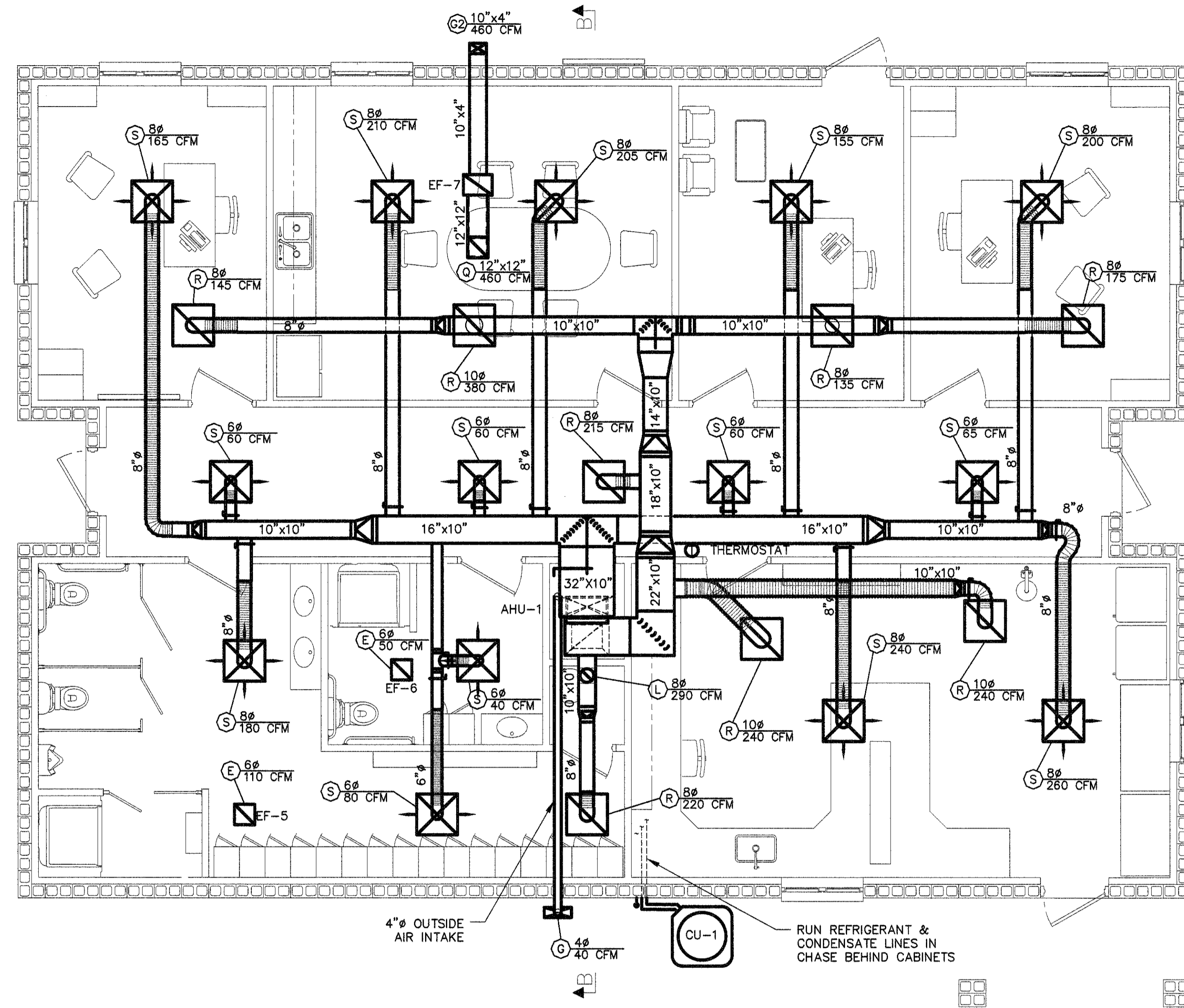
WASTE PIPING RISER DIAGRAM
N.T.S.

WATER SUPPLY RISER DIAGRAM
N.T.S.

PLUMBING FIXTURE SCHEDULE					
MARK	DESCRIPTION	MANUFACTURE PRODUCT NO.	MARK	DESCRIPTION	MANUFACTURE PRODUCT NO.
F1	DOUBLE BOWL SINK: 18 GAUGE STAINLESS STEEL, SET-IN TOP MOUNT 33"x22"	AMERICAN STANDARD: 7502.103/403	F4	WATER CLOSET: WHITE, ELONGATED, FLOOR MOUNTED W/ FLUSH VALVE INLET STUD (17" RIM HEIGHT) (FIXTURE TO MEET ADA GUIDELINES)	AMERICAN STANDARD: 3641.016
F2	TWO-HANDLE KITCHEN FAUCET W/ BRASS GOOSENECK SWIVEL SPOUT, LEVER HANDLES AND HANDSPRAY	AMERICAN STANDARD: 4275.551	F5	MANUAL TOILET FLUSH VALVE W/ 1" I.P.S. ANGLE STOP AND BACK-FLOW PREVENTION	AMERICAN STANDARD: 6047.161.002
F3	SINGLE BOWL SELF-RIMMING SINK 19"x8" DEEP (FAUCET HOLES ON 4" CENTERS)	AMERICAN STANDARD: 0427.444EC	F6	WALL MOUNTED FLUSHING RIM URINAL W/ WALL HANGERS	AMERICAN STANDARD: 6561.017
	TWO HANDLE LAVATORY FAUCET W/ CAST BRASS VALVE BODIES, CAST BRASS SPOUT AND POP-UP DRAIN.	AMERICAN STANDARD: 3875.503		MANUAL PISTON-TYPE URINAL FLUSH VALVE FOR 3/4" TOP STUD URINALS	AMERICAN STANDARD: 6045.051.002
	WATER CLOSET: WHITE, ELONGATED, FLOOR MOUNTED W/ FLUSH VALVE INLET STUD	AMERICAN STANDARD: 3451.160		48"x34" ACRYLIC SHOWER STALL W/ FIBERGLASS REINFORCEMENT. 5 1/2" HIGH BASE.	AMERICAN STANDARD: 4834Y1.SW W/ 4834Y1.ST BASE
	MANUAL TOILET FLUSH VALVE W/ 1" I.P.S. ANGLE STOP AND BACK-FLOW PREVENTION	AMERICAN STANDARD: 6047.161.002		TWO HANDLE SHOWER SET, CHROME SHOWER HEAD, ARM AND ESCUTCHEON. ONE PIECE DUEL VALVE BODY AND CHROME HANDLES	AMERICAN STANDARD: WILLIAMSBURG 1042 SERIES

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
05/2017		CONTROL BUILDING PLUMBING PLAN & DETAILS	
DRAWN	CHECKED		
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS <i>Environmental, Civil, Hydraulic</i>			SHEET 51 OF 77
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			





AIR CONDITIONING SCHEDULE					
MARK	DESCRIPTION	COOLING CAPACITY	CFM	HEATING CAPACITY	MANUFACTURE PRODUCT NO.
AHU-3	SPLIT SYSTEM HEAT PUMP/ AIR HANDLING UNIT	5 TON	2,000	60,000 BTUs	CARRIER: FC4D060
CU-3	HEAT PUMP/ CONDENSING UNIT	5 TON	-	60,000 BTUs	CARRIER: 25HC3

NOTE:
A/C UNIT SHALL BE FURNISHED WITH WALL MOUNTED PROGRAMMABLE THERMOSTAT, SUPPLY SIDE SMOKE DETECTORS AND CO2 SENSORS.

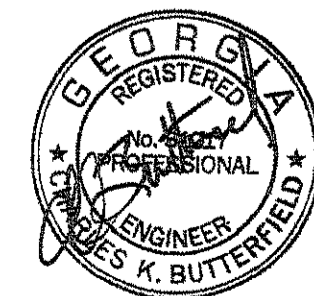
GRILLE AND DIFFUSER SCHEDULE		
MARK	DESCRIPTION	MANUFACTURE PRODUCT NO.
S	24"x24" PERFORATED CEILING DIFFUSER	TITUS: PAS
R	24"x24" RETURN GRILLE	TITUS: PAR
E	GRILLE BY EXHAUST FAN MFR.	N/A
G	4"x16" TO 4"Ø TRANSITION ATTACHED TO SOFFIT VENT W/ INSECT SCREEN	N/A
G2	4"x10"	N/A
Q	24"x24" CEILING DIFFUSER	TITUS: OMNI

LOUVERS AND DAMPERS	
L	ALUM. ROOFTOP AIR INTAKE WITH BACK DRAFT DAMPER

- NOTES:
- ALL DUCTWORK INCLUDING RETURN AND EXHAUST TO BE INSULATED. INSULATION SHALL BE 3 INCH THICK FIBERGLASS WRAP WITH FOIL SCRIM JACKET, MINIMUM R-8.
 - DUCTWORK SHALL BE SEALED AFTER ASSEMBLY USING DUCTMATE INDUSTRIES PRO SEAL LOW VOC OR APPROVED EQUAL.
 - VARIABLE SPEED CONTROLS MOUNTED NEXT TO LIGHT SWITCHES REQUIRED FOR EXHAUST FANS.
 - BREAK ROOM RANGE HOOD SHALL BE DUCTED THROUGH THE OUTSIDE WALL.
 - VENT EXHAUST FANS EF-5, EF-6, AND EF-7 TO SOFFIT.

EXHAUST FAN SCHEDULE				
MARK	DESCRIPTION	CFM	SP	MANUFACTURE PRODUCT NO.
EF-5	CEILING MOUNTED VENTILATOR	110	0.1	BROAM: AE110
EF-6	CEILING MOUNTED VENTILATOR	50	0.1	BROAM: AE50
EF-7	INLINE FAN W/ SPEED CONTROL & VIBRATION ISOLATION	459	0.25	COOK: GN-640

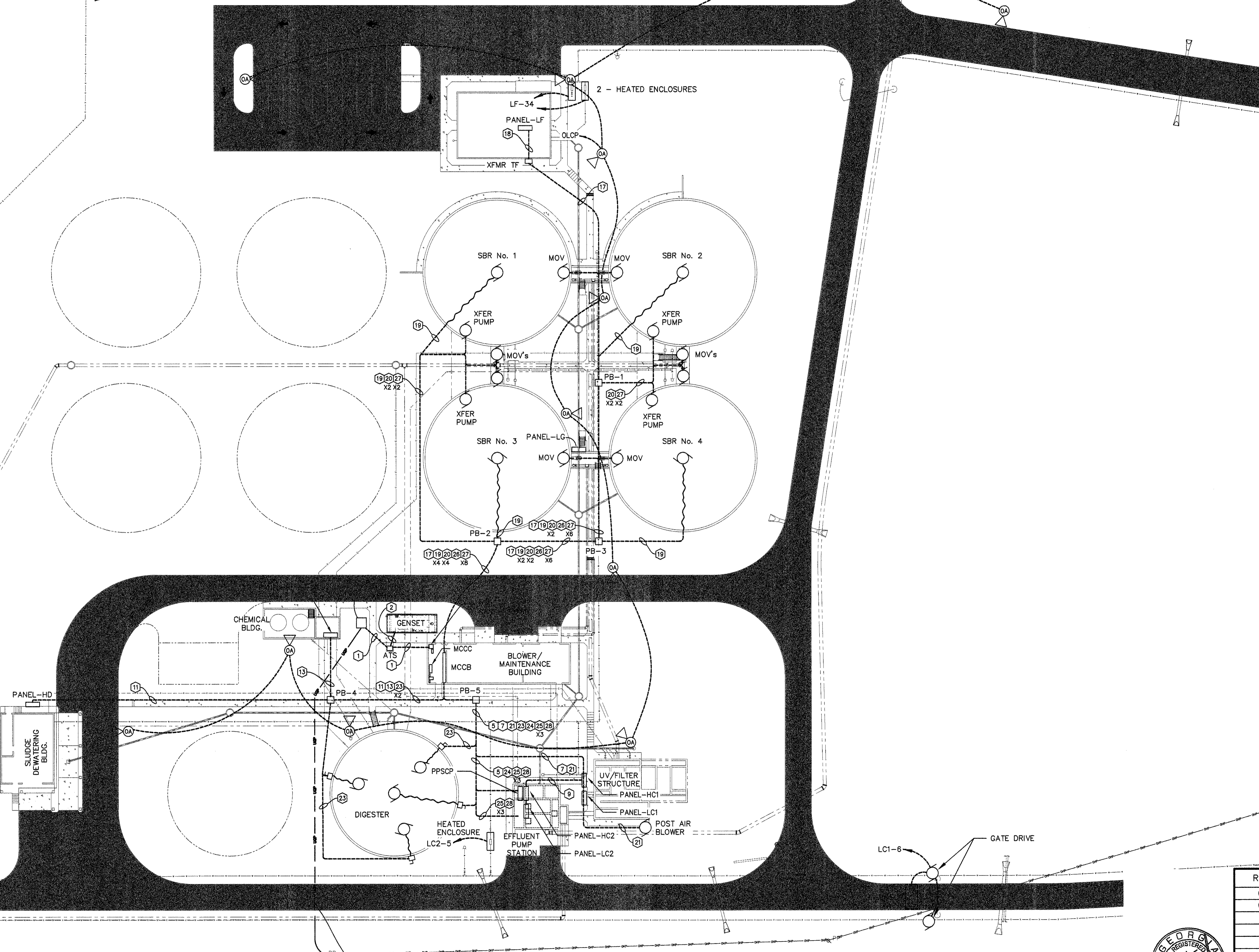
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		CONTROL BUILDING HVAC PLAN	
05/2017			
DRAWN: GKA		CHECKED: CKB	
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SCALE: AS SHOWN DATE: JANUARY 2017 SHEET 52 OF 77	





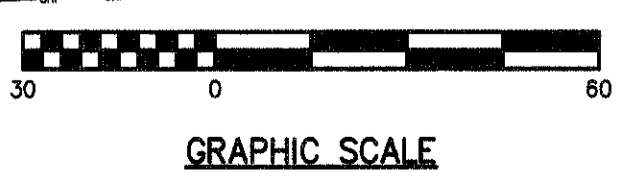
- NOTES:
1. THIS CONDUIT/DUCT BANK LAYOUT IS FOR GUIDANCE, ROUTE ALL RACEWAYS IN THE INDICATED CORRIDORS. ANY ADDITIONAL DUCTS OR CONDUITS SHALL BE INSTALLED FOR RACEWAYS FOR POWER, CONTROL & SIGNAL CIRCUITS AS REQUIRED.
 2. FOLLOW THE DETAILS ON THESE DRAWINGS FOR ROAD CROSSINGS, BUILDING ENTRANCES, STUB-UPS & PULL BOXES.
 3. ALL SIGNAL CONDUITS SHALL MAINTAIN AT LEAST 1' CLEARANCE FROM POWER & CONTROL CONDUITS & DUCTS.
 4. USE RIGID GALVANIZED STEEL CONDUIT FOR ALL EXPOSED RACEWAYS AND CONTROL AND SIGNAL CIRCUITS. USE ELECTRICAL METALLIC TUBING FOR ALL CONCEALED RACEWAYS IN CEILINGS AND WALL. USE LIQUID-TIGHT FLEXIBLE STEEL CONDUIT FOR FINAL CONNECTIONS TO ALL MOTORS, VIBRATING EQUIPMENT & IN WET OR DAMP INSTALLATIONS. USE RIGID NON-METALLIC THICK SCHEDULE 40 PVC PLASTIC CONDUIT FOR OUTSIDE UNDERGROUND FEEDERS & BRANCH CIRCUITS.
 5. SEE SPECIFICATIONS FOR GREATER DETAILS REGARDING RACEWAYS.
 6. SEE ELECTRICAL PLANS FOR SINGLE PHASE CIRCUITS.

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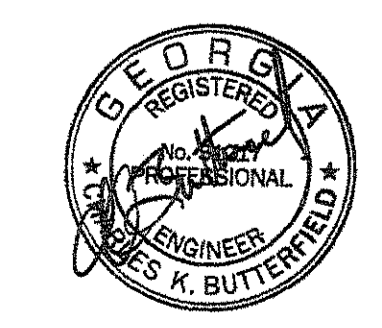


CABLE & CONDUIT SCHEDULE	
①	6 - 3½" C. 3#500KCM, 1#350 KCM(N) IN EA., 5 SPARE 3½" C. (TREATMENT PLANT SERVICE TO MAIN SWITCHBOARD)
②	5 - 3" C. 3#400 KCM, 1#300(N) IN EA., (TREATMENT PLANT GEN SET TO ATS)
⑤	3#4, 1#8(N), 1#10(G), 1¼" C. (PLANT PUMP STATION)
⑦	3#3/0, 1#1/0(N), 1#6(G), 2½" C. (PANEL-HC1)
⑨	3#1, 1#2(N), 1#8(G), 2" C. (PANEL-HC2)
⑪	3#1/0, 1#2(N), 1#6(G), 2" C. (PANEL-HD)
⑬	3#4, 1#8(N), 1#10(G), 1¼" C. (PANEL-HE)
⑰	2#3/0, 1#1/0(N), 1#6(G), 2" C. (XFRM TF)
⑱	2#250KCM, 1#3/0(N), 1#4(G), 2½" C. (PANEL-LF)
⑲	3#6, 1#8(G), 1¼" C. (SBR MIXERS)
⑳	3#12, 1#12(G), ¾" C. (SBR SLUDGE PUMPS)
㉑	3#10, 1#10(G), ¾" C. (POST AIR BLOWER)
㉓	3#4, 1#6(G), 1¼" C. (FLOATING AERATORS)
㉔	3#6, 1#8(G), 1¼" C. (FLOATING MIXER)
㉕	3#4/0KCM, 1#2(G), 2½" C. (EFFLUENT PUMPS)
㉖	2#8, 1#10(N), 1#10(G), 1" C. (PANEL-LG)
㉗	3#12, 1#12(G), ¾" C. (MOV'S)
㉘	2½" C. (SPARE CONDUIT FOR FUTURE EFFLUENT PUMP)

FIXTURE SCHEDULE	
ITEM	DESCRIPTION
OA	LITHONIA LIGHTING AS2 250S SR5S SPA ASKMA2 DCAS2, COOPER LIGHTING FRM OVA25SHW3BK OR EQUAL W/ 30" SQUARE MOUNTING POLE HIGH PRESSURE SODIUM AREA LIGHT.

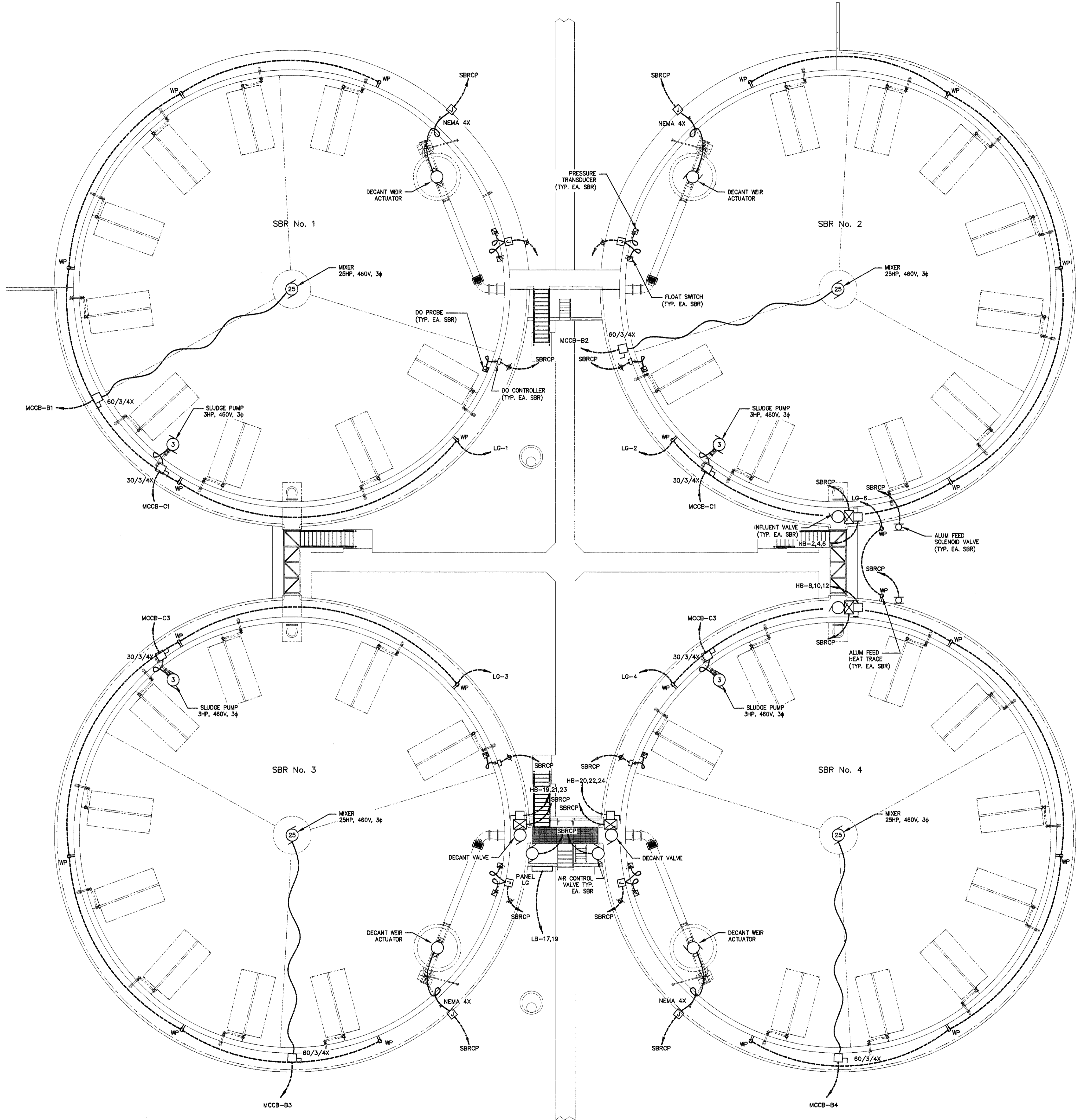


INSTALL 2 - 4" CONDUITS ENCASED IN CONCRETE FOR POWER COMPANY TO PULL SERVICE CABLES



REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		
05/2017		
ELECTRICAL SITE PLAN		
DRAWN	CHECKED	
GKA	CKB	SCALE: AS SHOWN DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 53 OF 77
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		

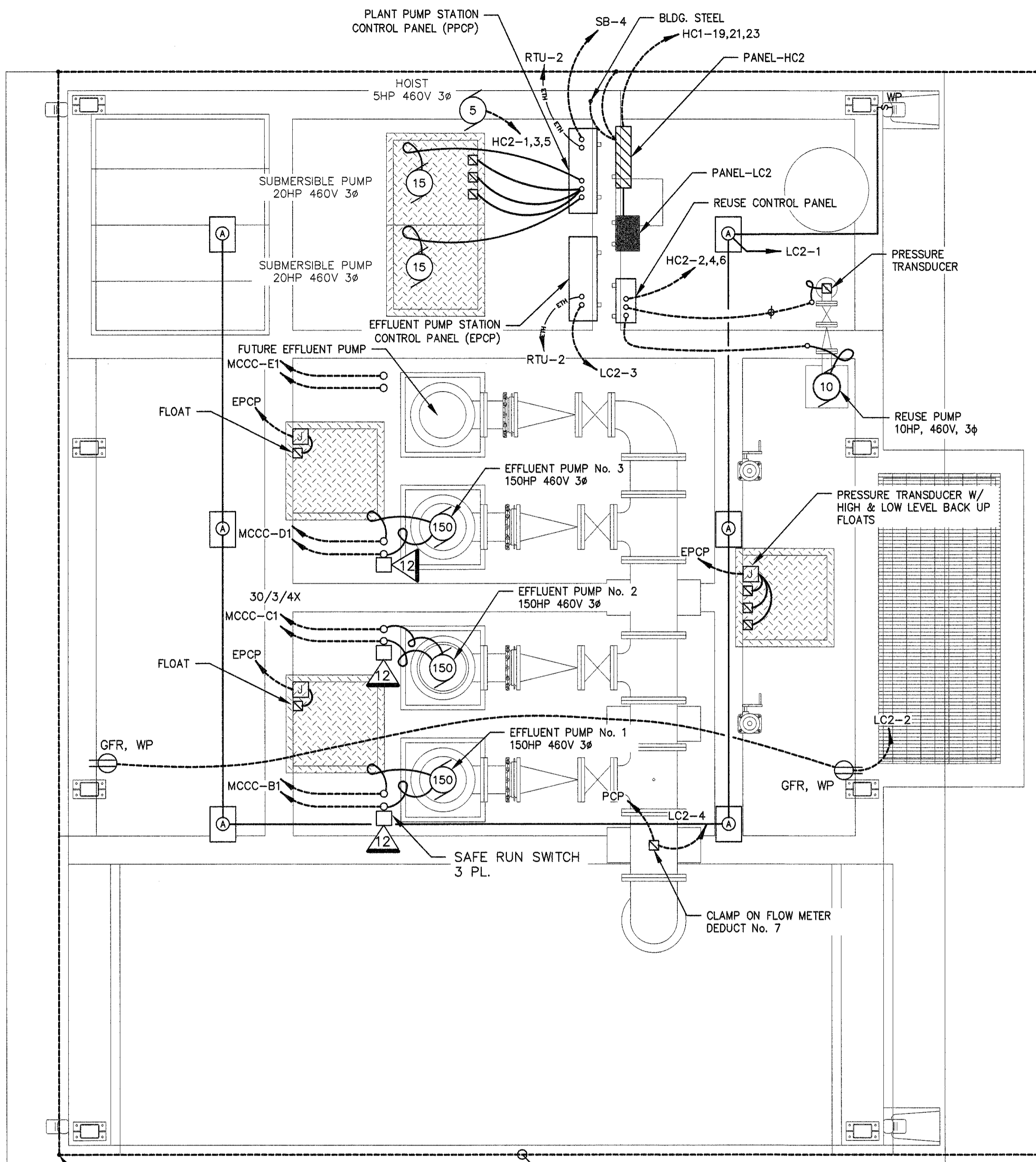
KEYED NOTES:
 ▷ MOUNT PANEL-LG TO UNISTRUT SUPPORTS W/ STAINLESS STEEL HARDWARE.



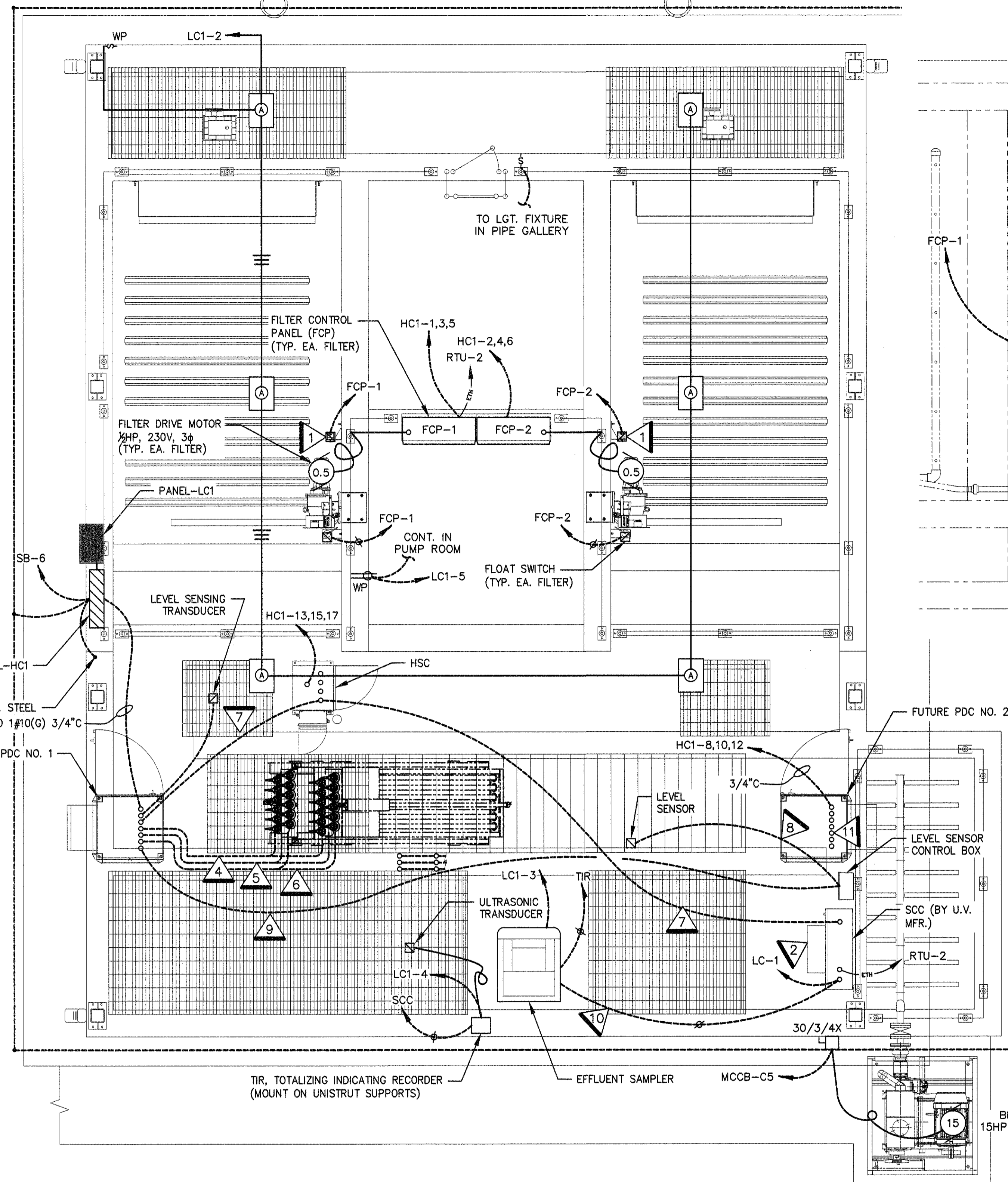
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		SBR ELECTRICAL PLAN	
DRAWN	CHECKED	SCALE: 3/8" = 1'-0" DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
		ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 54 OF 77	

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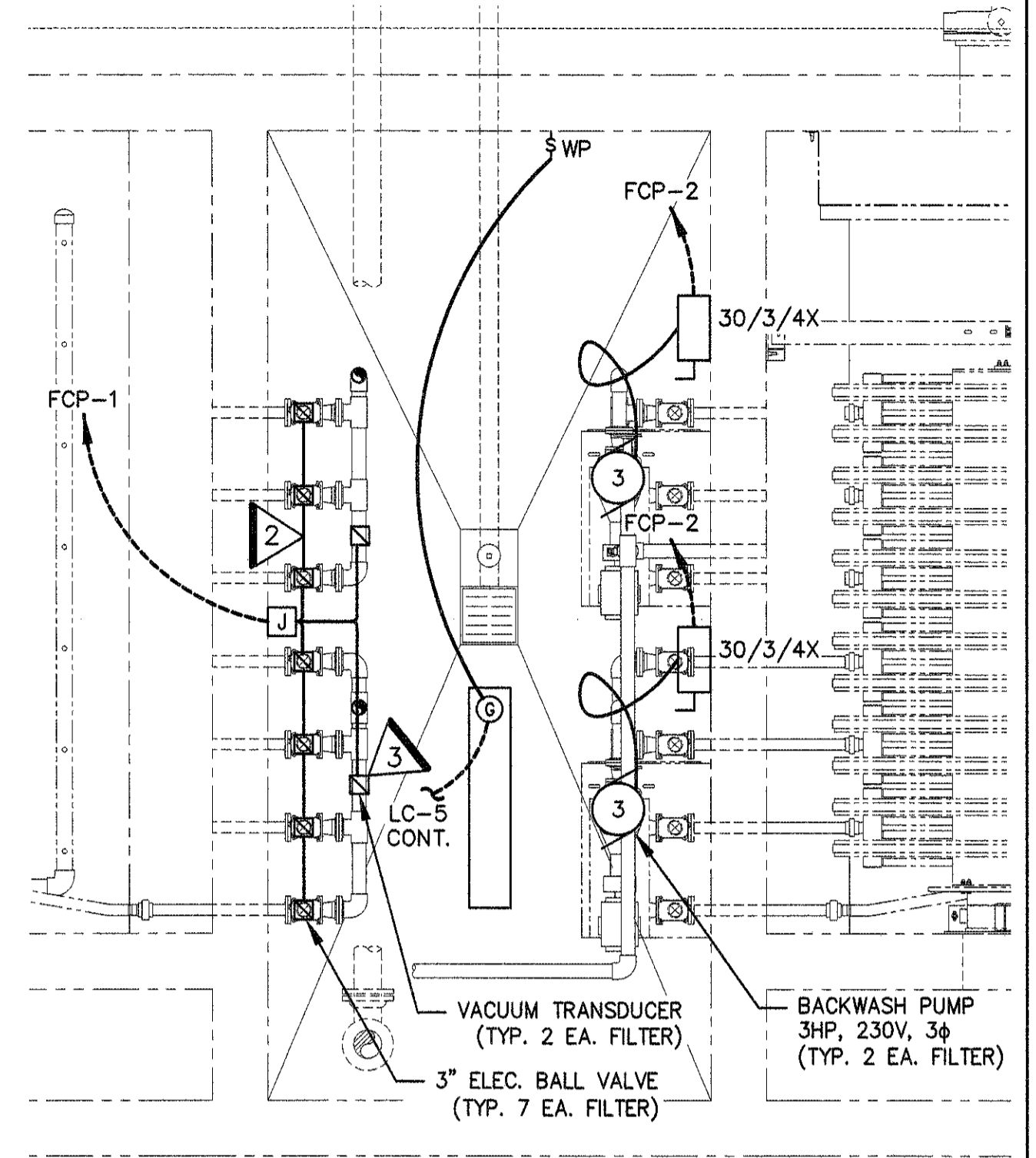
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EFFLUENT STRUCTURE ELECTRICAL PLAN
SCALE: 3/8" = 1'-0"



FILTER / UV STRUCTURE ELECTRICAL PLAN
SCALE: 3/8" = 1'-0"



FILTER PIPE GALLERY ELECTRICAL PLAN
SCALE: 3/8" = 1'-0"

NOTES:

1. CONDUITS SHALL BE INSTALLED WITHIN THE SLAB AS SHOWN. ENGINEER MUST APPROVE ROUTING PRIOR TO POURING CONCRETE.
2. ALL GROUND CONNECTIONS SHALL BE MADE WITH EXOTHERMIC WELD CONNECTIONS.

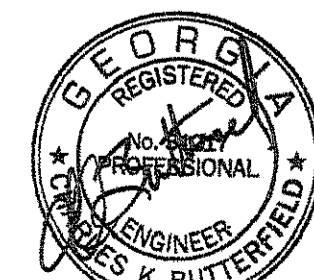
KEYED NOTES:

- 1 2#12, 1 SHIELDED TWISTED PAIR & SENSOR VENT LINE FROM PRESSURE TRANSDUCER TO FCP (TYP. EA. FILTER). VERIFY WIRE SIZE & QUANTITY W/ MANUFACTURER.
- 2 7#12, 1#12(G) (TYP. EA. SOLENOID ACTUATED VALVE) VERIFY WIRE SIZE & QUANTITY W/ MANUFACTURER. VALVES SHOWN SCHEMATICALLY, SEE MANUFACTURER DRAWING FOR LOCATION.
- 3 TWISTED SHIELD PAIR CABLE FROM VACUUM TRANSDUCER TO FILTER CONTROL PANEL.
- 4 BONDING CONDUCTOR 8 AWG TYPE TWH STRANDED FROM PDC(S) TO UV BANK(S)
- 5 UV INTENSITY 4-10mA ANALOG INPUT FROM UV BANK(S) TO PDC(S)
- 6 BANK IN PLACE PROXIMITY SENSOR 3 CONDUCTOR CABLES (SUPPLIED) FROM PROXIMITY SENSOR(S) TO PDC(S)

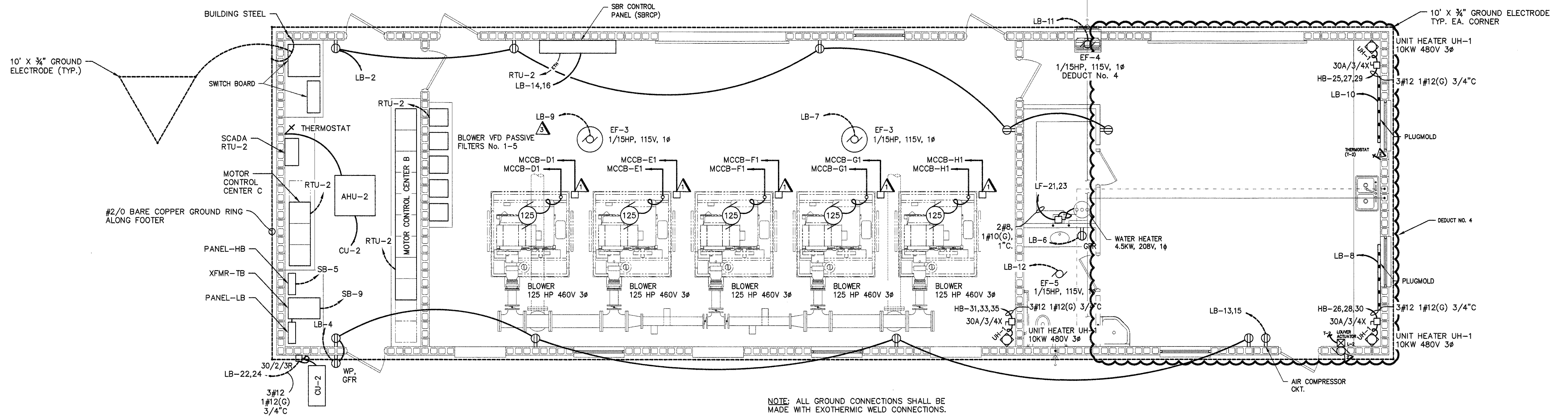
- 7 MODBUS BELDEN 3106A OR EQUIVALENT FROM SCC TO HSC(S) & PDC(S) (DAISY CHAINED)
- 8 DISCRETE LOW LEVEL SIGNAL 12 VDC-2 CONDUCTORS FROM LOW LEVEL SENSOR TO LEVEL SENSOR CONTROL BOX
- 9 DISCRETE WATER LEVEL SIGNAL 2 CONDUCTORS FROM LEVEL SENSOR CONTROL BOX TO PDC(S)
- 10 FLOW METER 4-20mA, DC ANALOG INPUT (BY OTHERS) FROM FLOW METER PANEL TO SCC
- 11 STUB UP ALL CONDUIT FOR FUTURE PDC TO MATCH LAYOUT OF PROPOSED PDC.
- 12 IN LIEU OF DISCONNECT SWITCH PROVIDE SAFE RUN SWITCH W/ LOCK-OUT TAG-OUT PROCEDURES.

FIXTURE SCHEDULE	
ITEM	DESCRIPTION
(A)	COOPER LIGHTING/EDISON CONICOE CNC-C04-LED-EQ-SQ, LITHONIA LIGHTING/CONTOUR KACM-LED 63B530/50K SR5 OR EQUAL LED CANOPY LIGHT
(C)	LARSON EPL-48-2L-LED EXPLOSION PROOF LED LIGHT FIXTURE CLASS 1 DIVISION 1 AND CLASS 1 DIVISION 2, WATER PROOF LED STRIP LIGHT

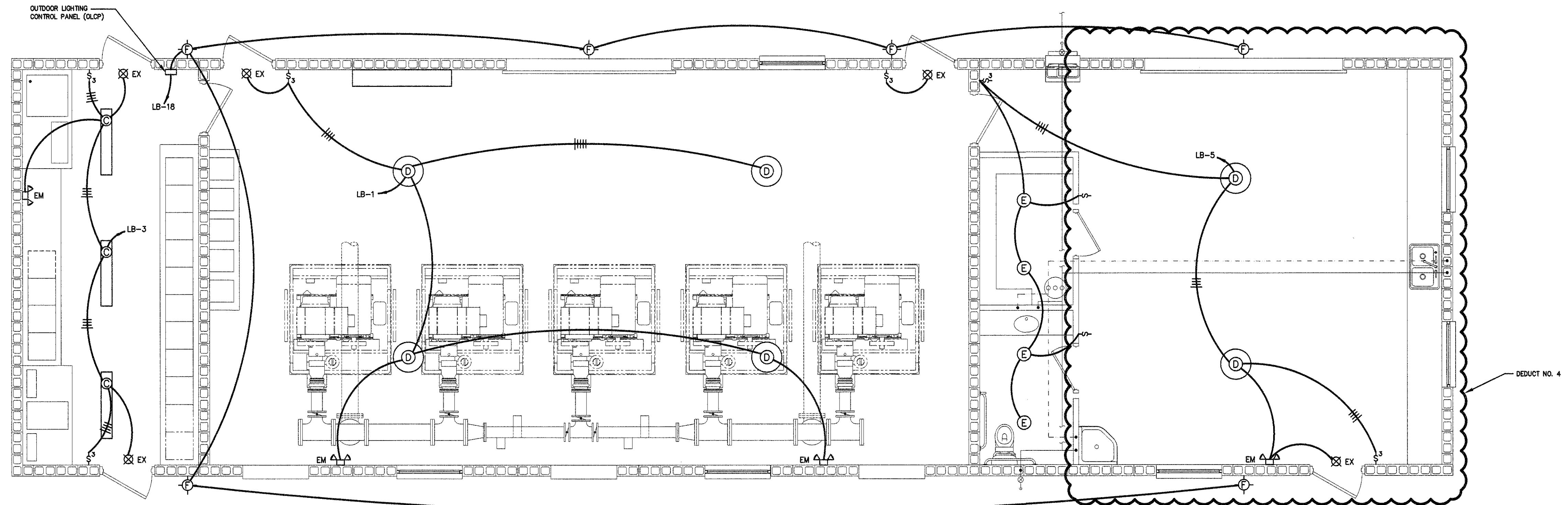
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		EFFLUENT STRUCTURE ELECTRICAL PLAN	
DRAWN	CHECKED		
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 55 OF 77	



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NOTE: ALL GROUND CONNECTIONS SHALL BE MADE WITH EXOTHERMIC WELD CONNECTIONS.
BLOWER & MAINTENANCE BLDG.
POWER PLAN
 SCALE: 1/4" = 1'-0"



BLOWER & MAINTENANCE BLDG.
LIGHTING PLAN
 SCALE: 1/4" = 1'-0"

FIXTURE SCHEDULE	
ITEM	DESCRIPTION
(C)	COOPER LIGHTING/FAIL SAFE HVLB-4-LD4-2STD-50-UNV-0-EDD-D / LITHONIA LIGHTING 60L LP850 VANDAL RESISTANT LINEAR LED OR EQUAL
(D)	HUBBELL LIGHTING - FPH-SK P95-120-ND-A-GR, LITHONIA LIGHTING - JHBL 24000LM GL WD 50K 70CRI OR EQUAL, 24,000 LUMEN LED HIGH BAY
(E)	COOPER LIGHTING - HALO H750 ICAT ML706 8 30, LITHONIA LIGHTING - 6G1MW LED 27K 90CRI M6 OR EQUAL 6" IC AIR TIGHT LED DOWNLIGHT
(F)	COOPER LIGHTING/METALUX LD WP GL 3B ED, LITHONIA LIGHTING WST LED P2 50K VW MVOLT OR EQUAL LED WALL PACK
EM	COOPER LIGHTING APEL LED EMERGENCY LIGHT
EX	COOPER LIGHTING SURE-LITES TPX LED EXIT LIGHT

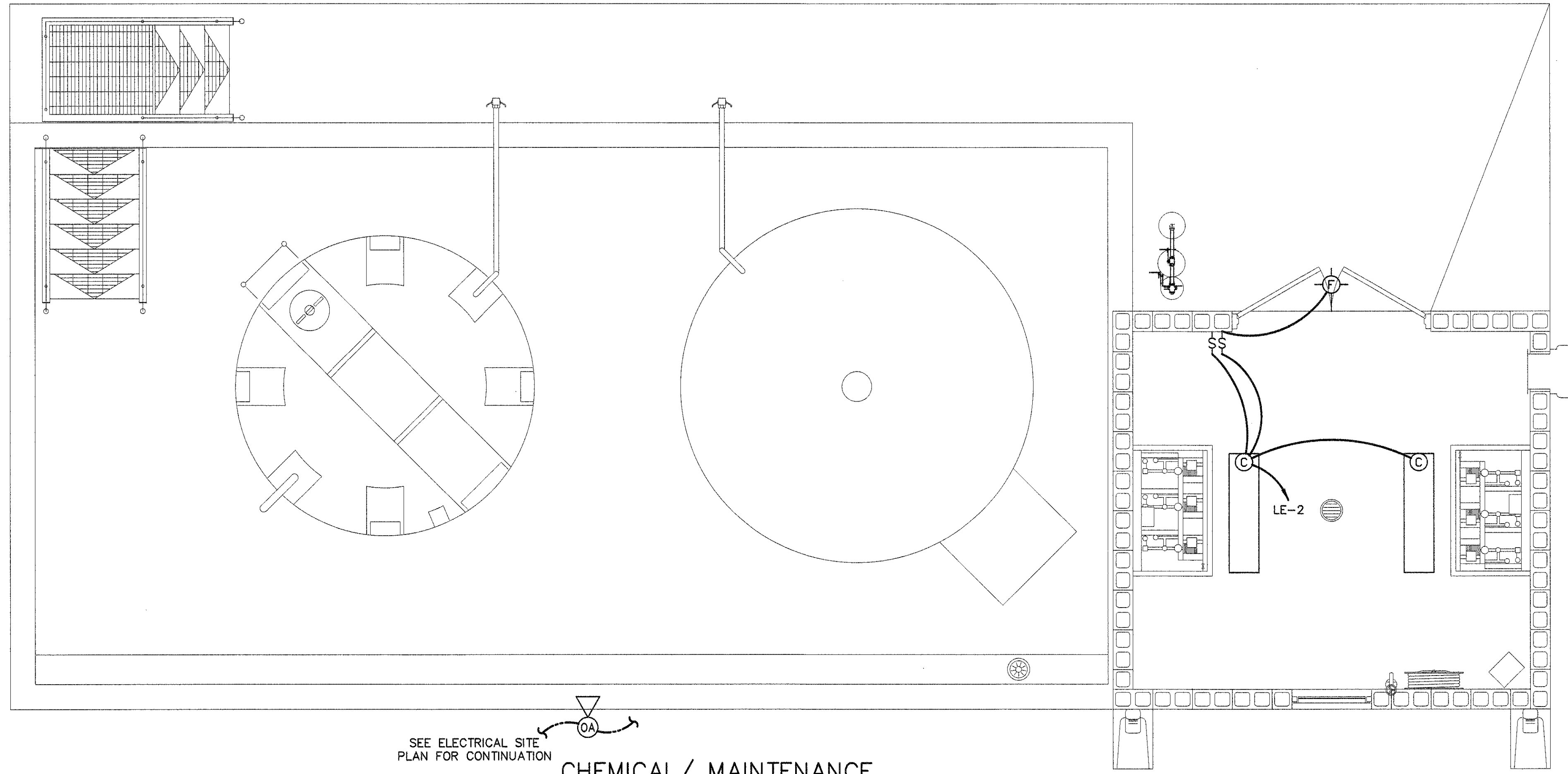
KEYED NOTES:

- IN LIEU OF DISCONNECT SWITCH PROVIDE SAFE RUN SWITCH W/ LOCK-OUT TAG-OUT PROCEDURES.
- CONTRACTOR TO FURNISH AND INSTALL ALL POWER/SIGNAL CABLING/CONDUIT FOR THERMOSTAT TO CONTROL EXHAUST FAN AND LOWER.
- ROUTE EACH BLOWER CIRCUIT FROM THE VFD IN MOTOR CONTROL CENTER B THRU THE PASSIVE FILTER MOUNTED ON THE WALL IN THE BLOWER ROOM, THEN THRU TO THE BLOWER. THE SCADA PANEL (RTU-2) WILL PROVIDE A SIGNAL FROM THE GENERATOR TO NOTIFY EACH PASSIVE FILTER WHEN THE BLOWERS ARE OPERATING UNDER GENERATOR POWER SO THE CAPACITOR DISCONNECT MAY BE OPENED.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		BLOWER & MAINTENANCE BUILDING ELECTRICAL PLANS	
05/2017			
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 56 OF 77	

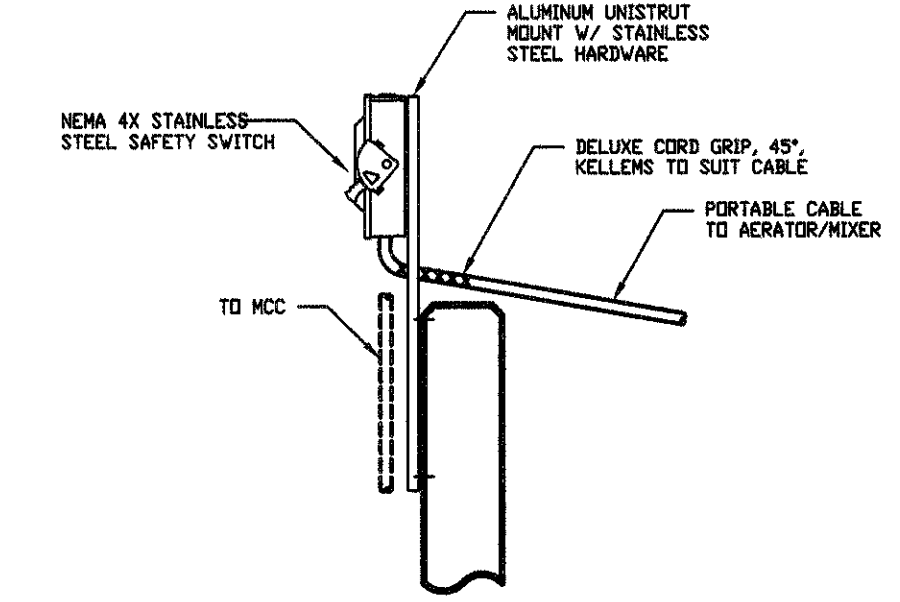
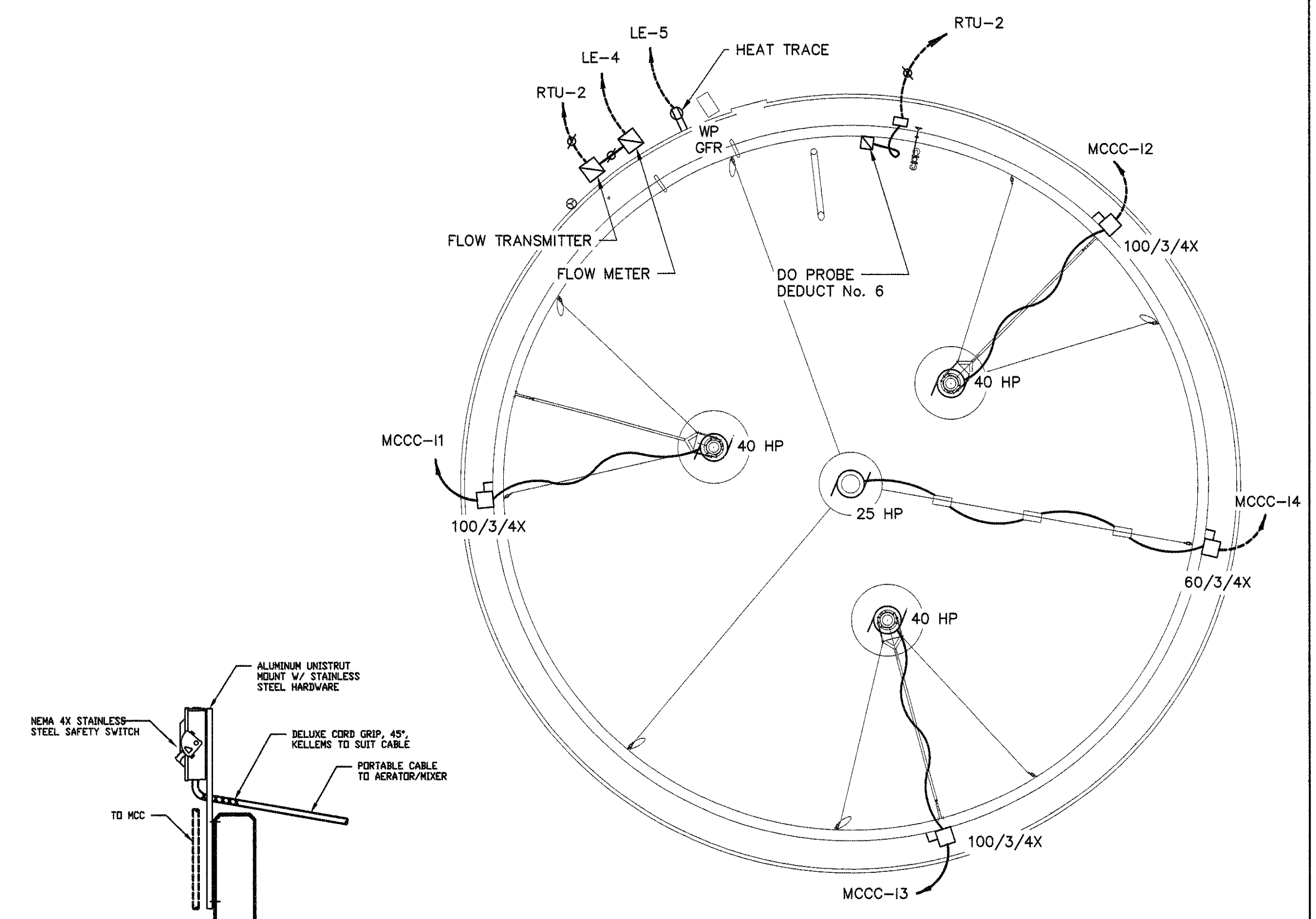
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SEE ELECTRICAL SITE PLAN FOR CONTINUATION

CHEMICAL/ MAINTENANCE BUILDING LIGHTING PLAN

SCALE: 3/8" = 1'-0"

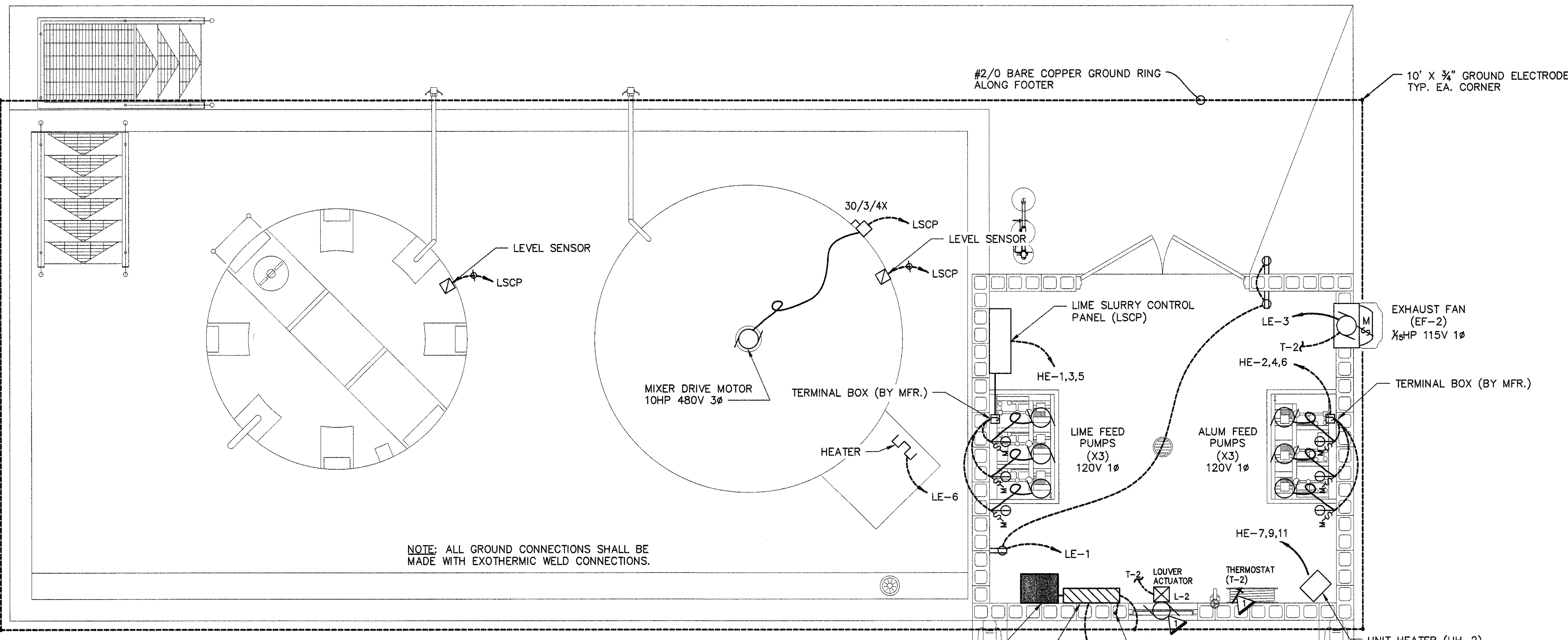


AERATOR/MIXER SERVICE DETAIL

SCALE: N.T.S.

AEROBIC DIGESTER ELECTRICAL PLAN

SCALE: 3/32" = 1'-0"



NOTE: ALL GROUND CONNECTIONS SHALL BE MADE WITH EXOTHERMIC WELD CONNECTIONS.

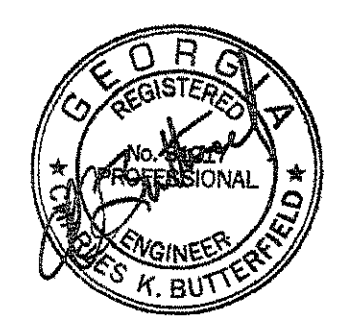
CHEMICAL/ MAINTENANCE BUILDING POWER PLAN

SCALE: 3/8" = 1'-0"

FIXTURE SCHEDULE	
ITEM	DESCRIPTION
⊙	COOPER LIGHTING/METALUX LD WP GL 2A ED LED WALL PACK
⊕	COOPER LIGHTING/METALUX LD WP GL 3B ED, LITHONIA LIGHTING WST LED P2 50K VW MVOLT OR EQUAL LED WALL PACK

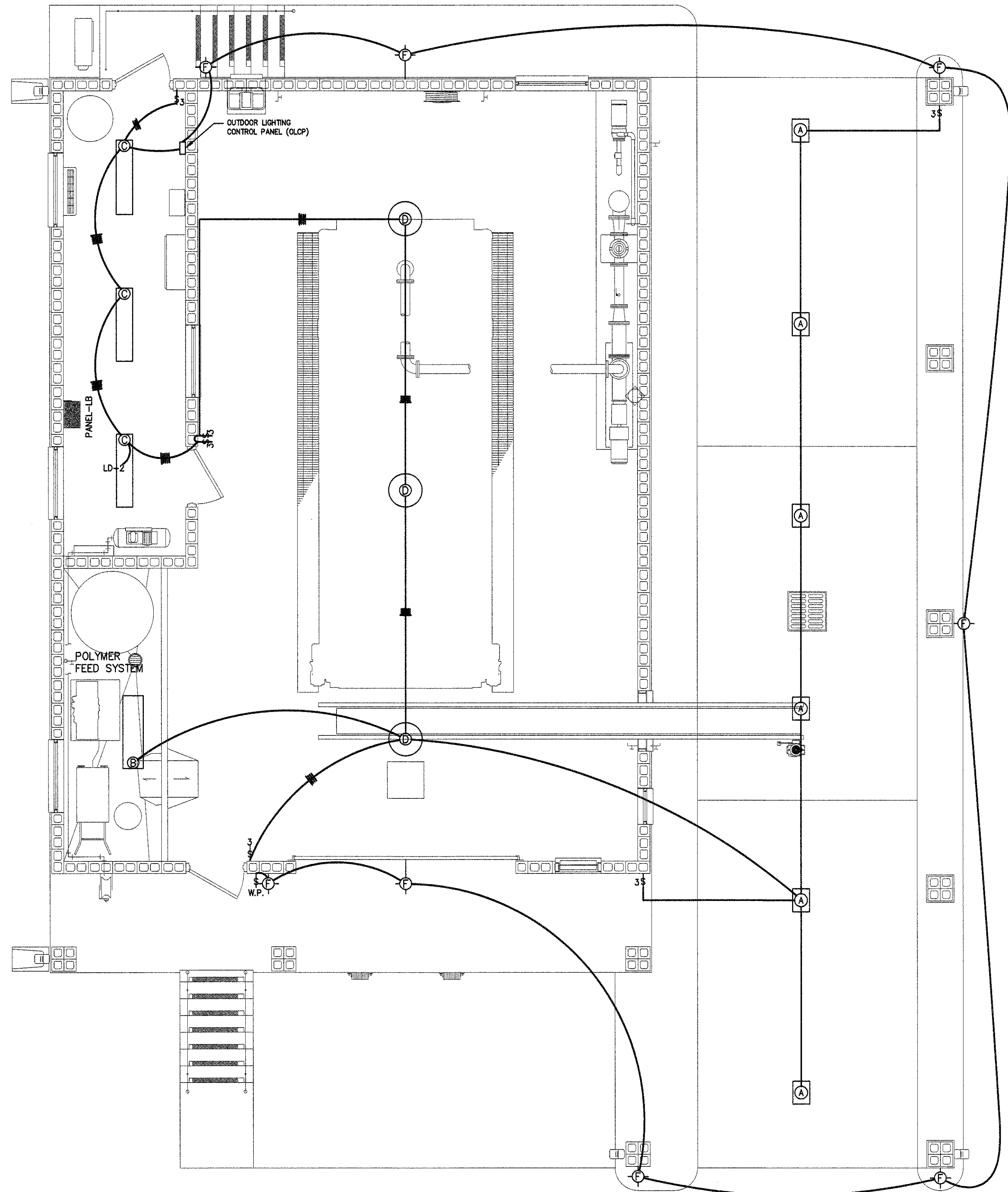
NOTE: ALL HVAC EQUIPMENT TO BE CORROSION RESISTANT AND ALL SWITCHES, THERMOSTATS, ETC. TO BE WATER TIGHT.

KEYED NOTES:
 ▽ CONTRACTOR TO FURNISH AND INSTALL ALL POWER/SIGNAL CABLING/CONDUIT FOR THERMOSTAT TO CONTROL EXHAUST FAN AND LOUVER.

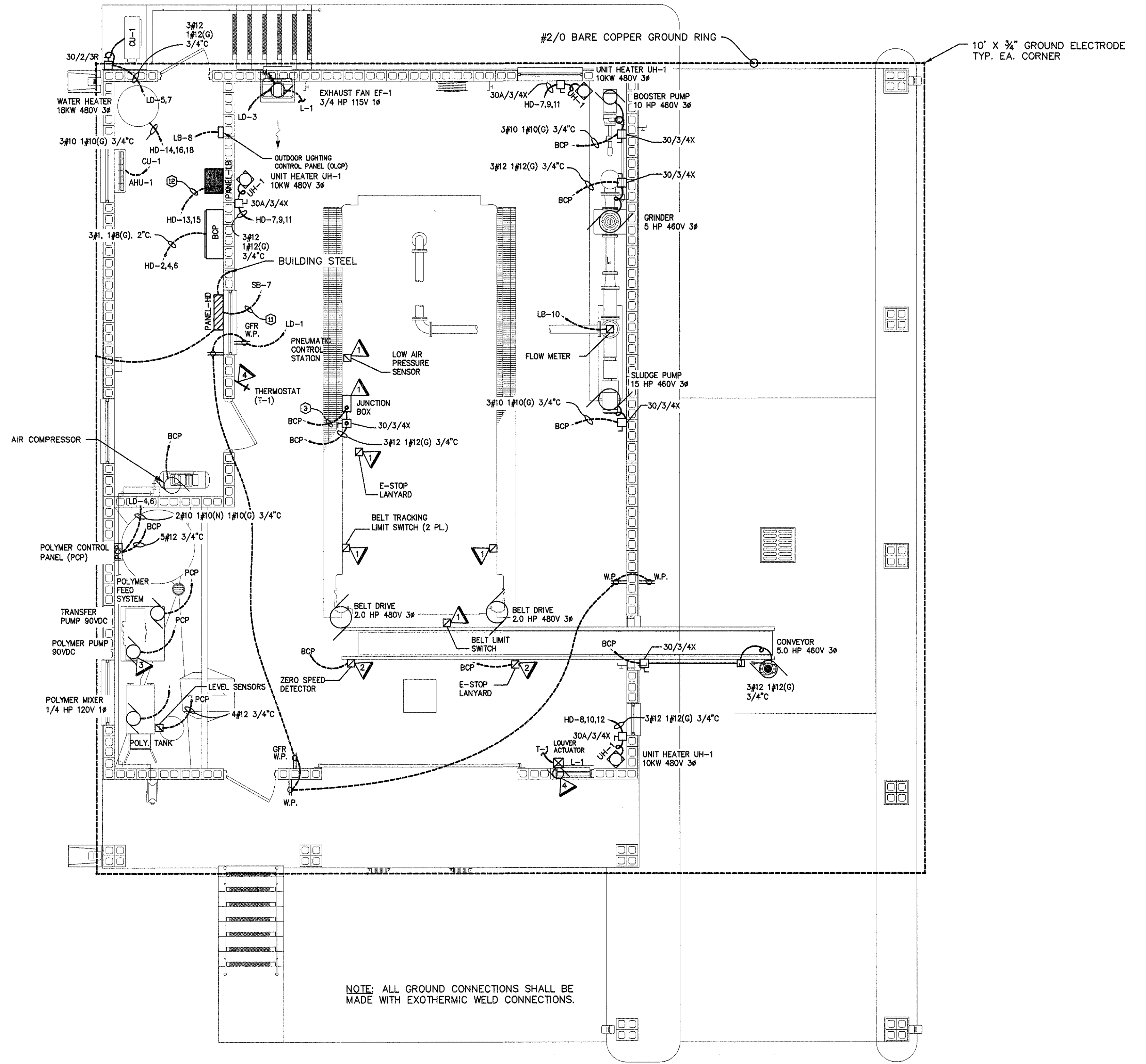


REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017	WATER POLLUTION CONTROL PLANT - PHASE II	
	AEROBIC DIGESTER & CHEMICAL STRUCTURE ELECTRICAL PLANS	
DRAWN	CHECKED	
GKA	CKB	SCALE: AS SHOWN DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		57 OF 77

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**SLUDGE DEWATERING BUILDING
LIGHTING PLAN**
SCALE: 1/4" = 1'-0"



**SLUDGE DEWATERING BUILDING
POWER PLAN**
SCALE: 1/4" = 1'-0"

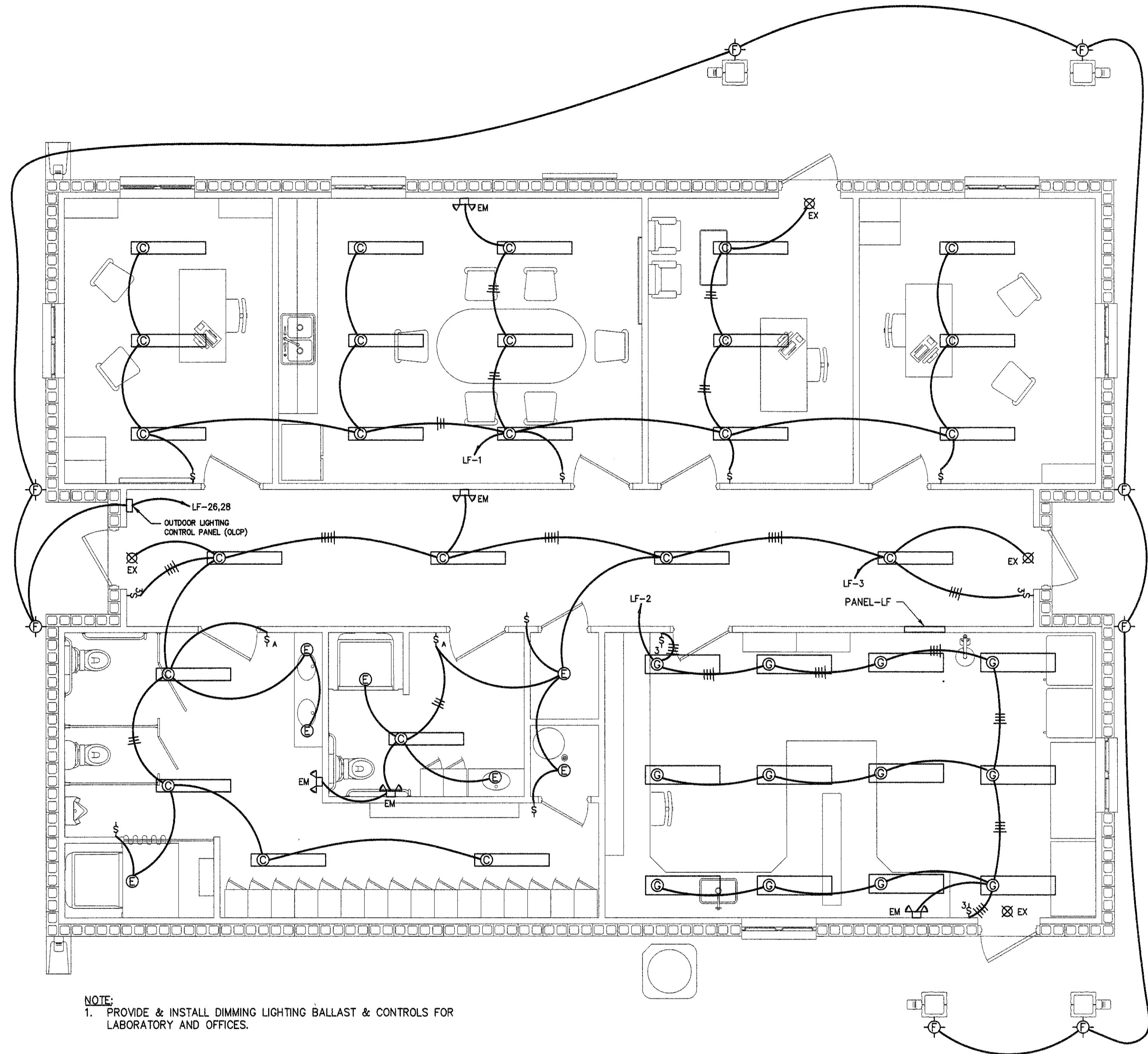
FIXTURE SCHEDULE	
ITEM	DESCRIPTION
(A)	COOPER LIGHTING CFS12LP 332, LITHONIA LIGHTING / EIS 3 32 MVOLT STSW - HEAVY DUTY STRIP LIGHT, HOSEDOWN RATED, WHITE STAINLESS STEEL HOUSING, THREE LAMP 32W LINEAR FLUORESCENT OR EQUAL.
(B)	COOPER LIGHTING/EDISON CONCISE CNC-C04-LED-EQ-SQ, LITHONIA LIGHTING/CONTOUR KACM-LED 63B530/50K SR5 OR EQUAL LED CANOPY LIGHT
(C)	COOPER LIGHTING/METALUX LD WP GL 4A ED, LITHONIA LIGHTING WST LED 1 SR2 MVOLT DDBXD OR EQUAL LED WALL PACK
(D)	HUBBELL LIGHTING - FPH-5K P95-120-ND-A-GR, LITHONIA LIGHTING - JHBL 24000LM GL WD 50K 70CRI OR EQUAL, 24,000 LUMEN LED HIGH BAY
(F)	COOPER LIGHTING/METALUX LD WP GL 3B ED, LITHONIA LIGHTING WST LED P2 50K VW MVOLT OR EQUAL LED WALL PACK

KEYED NOTES:

- ▶ LIMIT SWITCHES AND CONTROL SOLENOID ARE DRAWN FOR ILLUSTRATIVE PURPOSES. CONTROL AND POWER FOR BELT PRESS TO BE WIRED BY THE MANUFACTURER TO THE JUNCTION BOX SHOWN. VERIFY LOCATIONS WITH MANUFACTURER PRIOR TO ROUGHING IN CONDUITS. VERIFY CABLE SIZE AND QUANTITY W/ MANUFACTURER.
- ▶ LIMIT SWITCHES ARE DRAWN FOR ILLUSTRATIVE PURPOSES. CONTROL AND POWER FOR CONVEYOR TO BE ROUTED TO BCP AS SHOWN. VERIFY LOCATIONS WITH MANUFACTURER PRIOR TO ROUGHING IN CONDUITS. VERIFY CABLE SIZE AND QUANTITY W/ MANUFACTURER.
- ▶ COORDINATE PUMP LOCATIONS WITH POLYMER SYSTEM MANUFACTURER. VERIFY CABLE SIZE AND QUANTITY W/ MANUFACTURER.
- ▶ CONTRACTOR TO FURNISH AND INSTALL ALL POWER/SIGNAL CABLING/CONDUIT FOR THERMOSTAT TO CONTROL EXHAUST FAN AND LOVER.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
SLUDGE DEWATERING BUILDING ELECTRICAL PLANS			
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			SHEET 58 OF 77

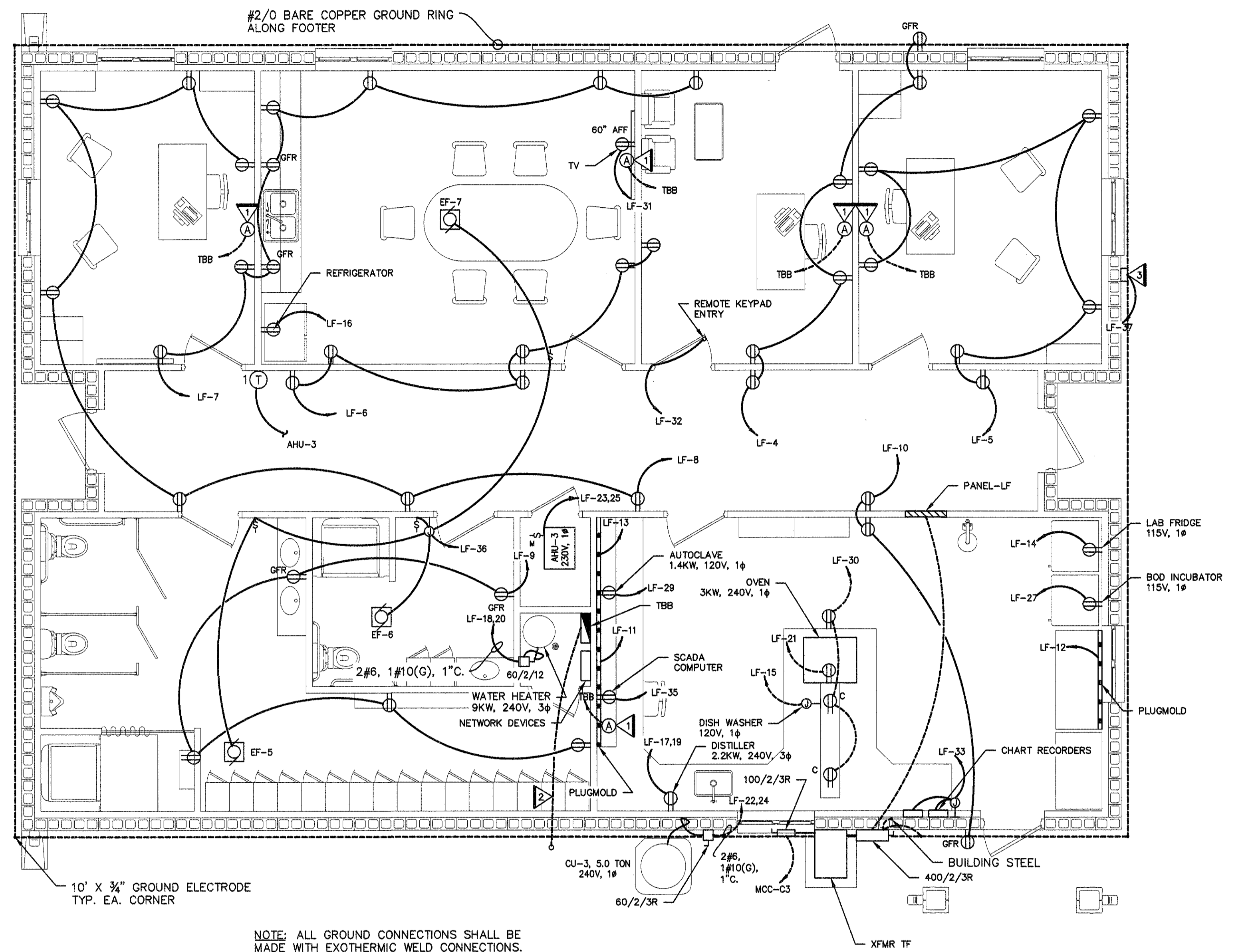


NOTE:
1. PROVIDE & INSTALL DIMMING LIGHTING BALLAST & CONTROLS FOR LABORATORY AND OFFICES.

CONTROL BUILDING LIGHTING PLAN

SCALE: 1/4" = 1'-0"

FITTURE SCHEDULE	
ITEM	DESCRIPTION
(C)	COOPER LIGHTING/FAIL SAFE HVLB-4-LD4-2STD-50-UNV-0-EDD-D / LITHONIA LIGHTING 60L LP850 VANDAL RESISTANT LINEAR LED OR EQUAL
(E)	COOPER LIGHTING - HALO H750 ICAT ML706 8 30, LITHONIA LIGHTING - 6G1MW LED 27K 90CRI M6 OR EQUAL 6" IC AIR TIGHT LED DOWNLIGHT
(F)	COOPER LIGHTING/METALUX LD WP GL 3B ED, LITHONIA LIGHTING WST LED P2 50K VW MVOLT OR EQUAL LED WALL PACK
(G)	COOPER LIGHTING/FAIL SAFE HVL12-4-LD4-3STD-50-UNV-0-EDD-D VANDAL RESISTANT LINEAR LED OR EQUAL
EM	COOPER LIGHTING APEL LED EMERGENCY LIGHT
EX	COOPER LIGHTING SURE-LITES TPX LED EXIT LIGHT



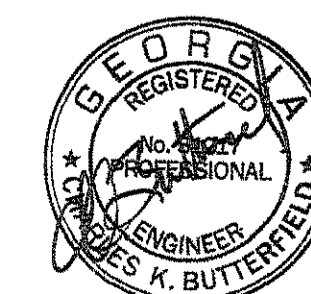
NOTE: ALL GROUND CONNECTIONS SHALL BE MADE WITH EXOTHERMIC WELD CONNECTIONS.

CONTROL BUILDING ELECTRICAL PLAN

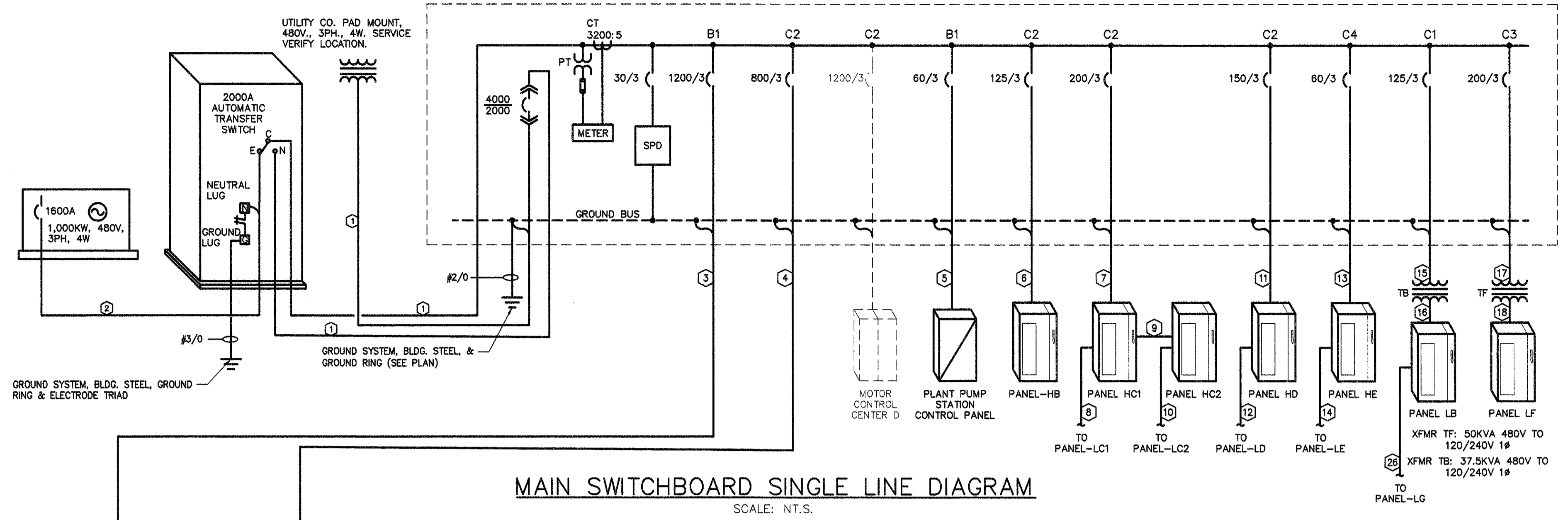
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KEYED NOTES:

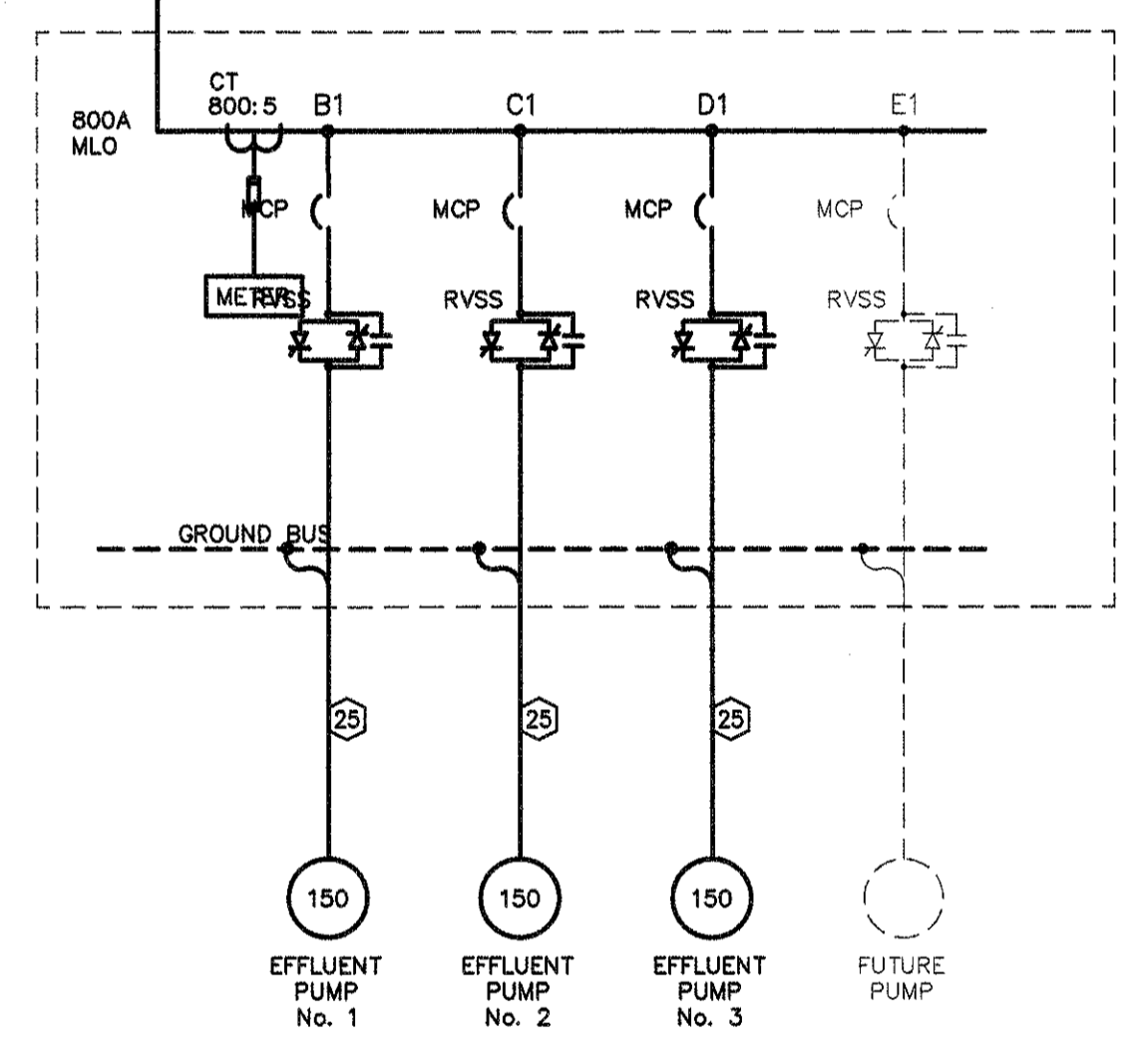
- ▶ PROVIDE 1" C. SEE TELE/VIDEO RISER DIAGRAM SHEET 63.
- ▶ 2-2" C. TO TELCO./CABLE W/FISHWIRE FOR SERVICE.
- ▶ TERMINATE CONDUCTORS IN S.S. J.B. FOR CONNECTION TO IRRIGATION CONTROL SYSTEM (BY OTHERS)



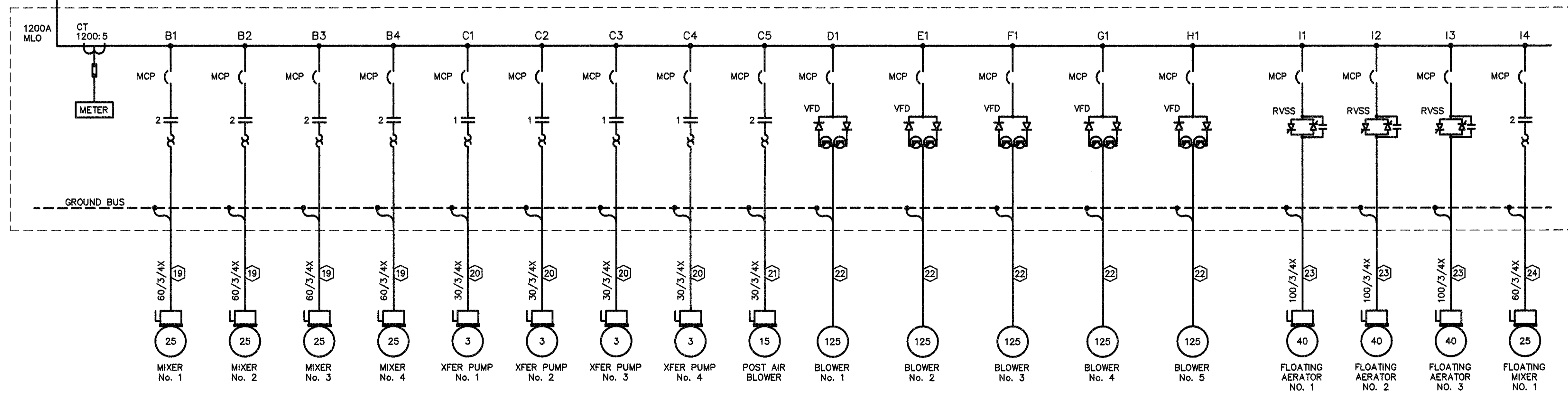
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		CONTROL BUILDING ELECTRICAL PLANS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 59 OF 77	



MAIN SWITCHBOARD SINGLE LINE DIAGRAM
SCALE: NT.S.



PROPOSED MCC-C SINGLE LINE DIAGRAM
SCALE: NT.S.



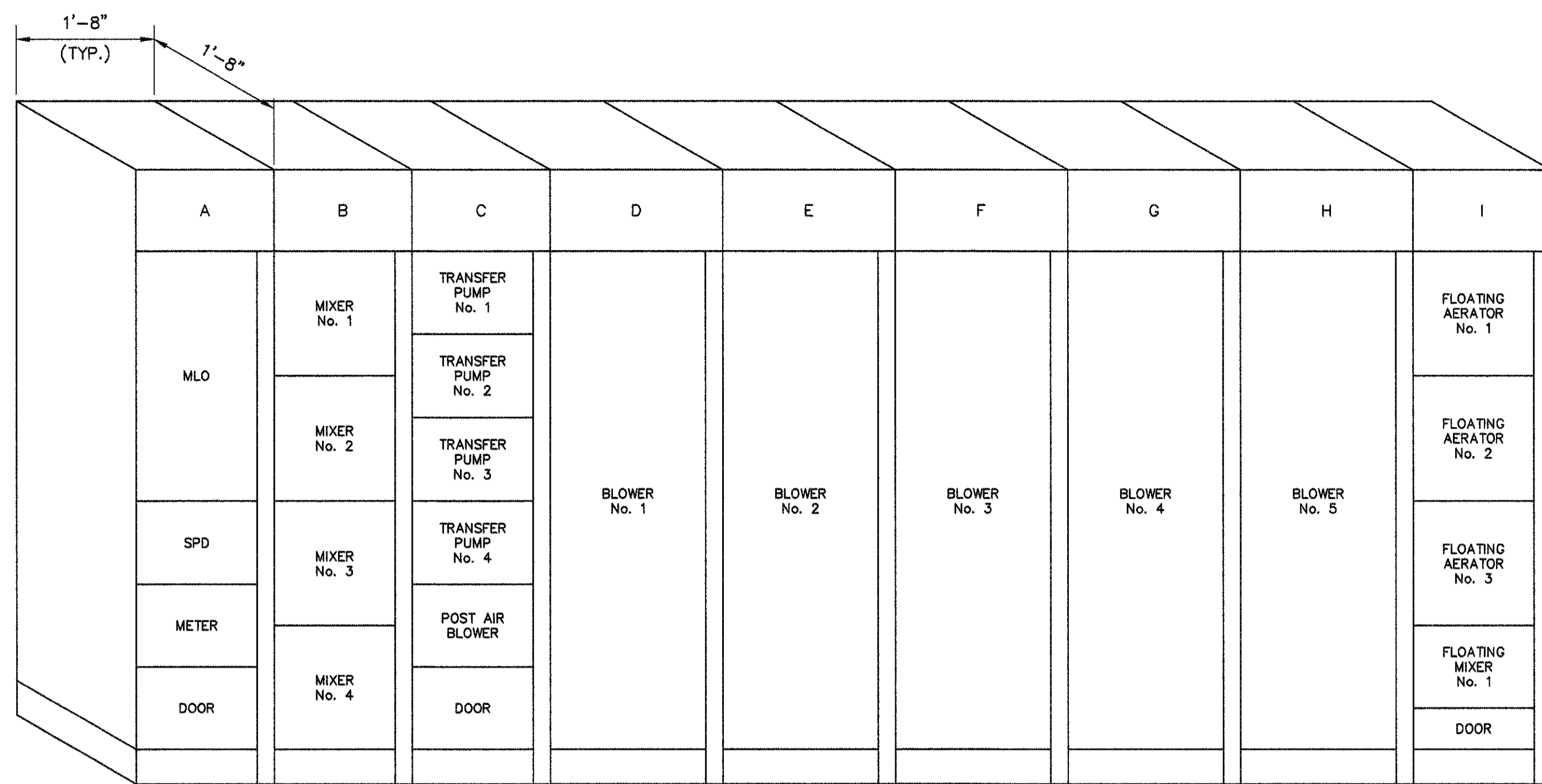
PROPOSED MCC-B SINGLE LINE DIAGRAM
SCALE: NT.S.

CABLE & CONDUIT SCHEDULE	
①	6 - 3/2" C. 3#500KCM, 1#350 KCM(N) IN EA., 5 SPARE 3/2" C. (TREATMENT PLANT SERVICE TO MAIN SWITCHBOARD)
②	5 - 3" C. 3#400 KCM, 1#300(N) IN EA., (TREATMENT PLANT GEN SET TO ATS)
③	4 - 3" C. 3#350 KCM, 1#250(N), IN EA. #3/0(G), (MCCB)
④	3 - 3" C. 3#300 KCM, 1#4/0(N), IN EA. #1/0(G), (MCCC)
⑤	3#4, 1#8(N), 1#10(G), 1/2" C. (PLANT PUMP STATION)
⑥	3#1, 1#2(N), 1#6(G), 2" C. (PANEL-HB)
⑦	3#3/0, 1#1/0(N), 1#6(G), 2 1/2" C. (PANEL-HC1)
⑧	2#12, 1#12(N), 1#12(G), 3/4" C. (PANEL-LC1)
⑨	3#1, 1#2(N), 1#8(G), 2" C. (PANEL-HC2)
⑩	2#12, 1#12(N), 1#12(G), 3/4" C. (PANEL-LC2)
⑪	3#1/0, 1#2(N), 1#6(G), 2" C. (PANEL-HD)
⑫	2#10, 1#10(N), 1#10(G), 3/4" C. (PANEL-LD)
⑬	3#4, 1#8(N), 1#10(G), 1/2" C. (PANEL-HE)
⑭	2#12, 1#12(N), 1#12(G), 3/4" C. (PANEL-LE)
⑮	2#1, 1#2(N), 1#6(G), 1 1/2" C. (XFMR TB)
⑯	2#3/0, 1#1/0(N), 1#6(G), 2" C. (PANEL-LB)
⑰	2#3/0, 1#1/0(N), 1#6(G), 2" C. (XFMR TF)
⑱	2#250KCM, 1#3/0(N), 1#4(G), 2 1/2" C. (PANEL-LF)
⑲	3#6, 1#8(G), 1 1/4" C. (SBR MIXERS)
⑳	3#12, 1#12(G), 3/4" C. (SBR SLUDGE PUMPS)
㉑	3#10, 1#10(G), 3/4" C. (POST AIR BLOWER)
㉒	3#3/0, 1#2(G), 2" C. (BLOWERS)
㉓	3#4, 1#8(G), 1 1/4" C. (FLOATING AERATORS)
㉔	3#6, 1#8(G), 1 1/4" C. (FLOATING MIXER)
㉕	3#4/0KCM, 1#2(G), 2 1/2" C. (EFFLUENT PUMPS)
㉖	2#8, 1#10(N), 1#10(G), 1" C. (PANEL-LG)

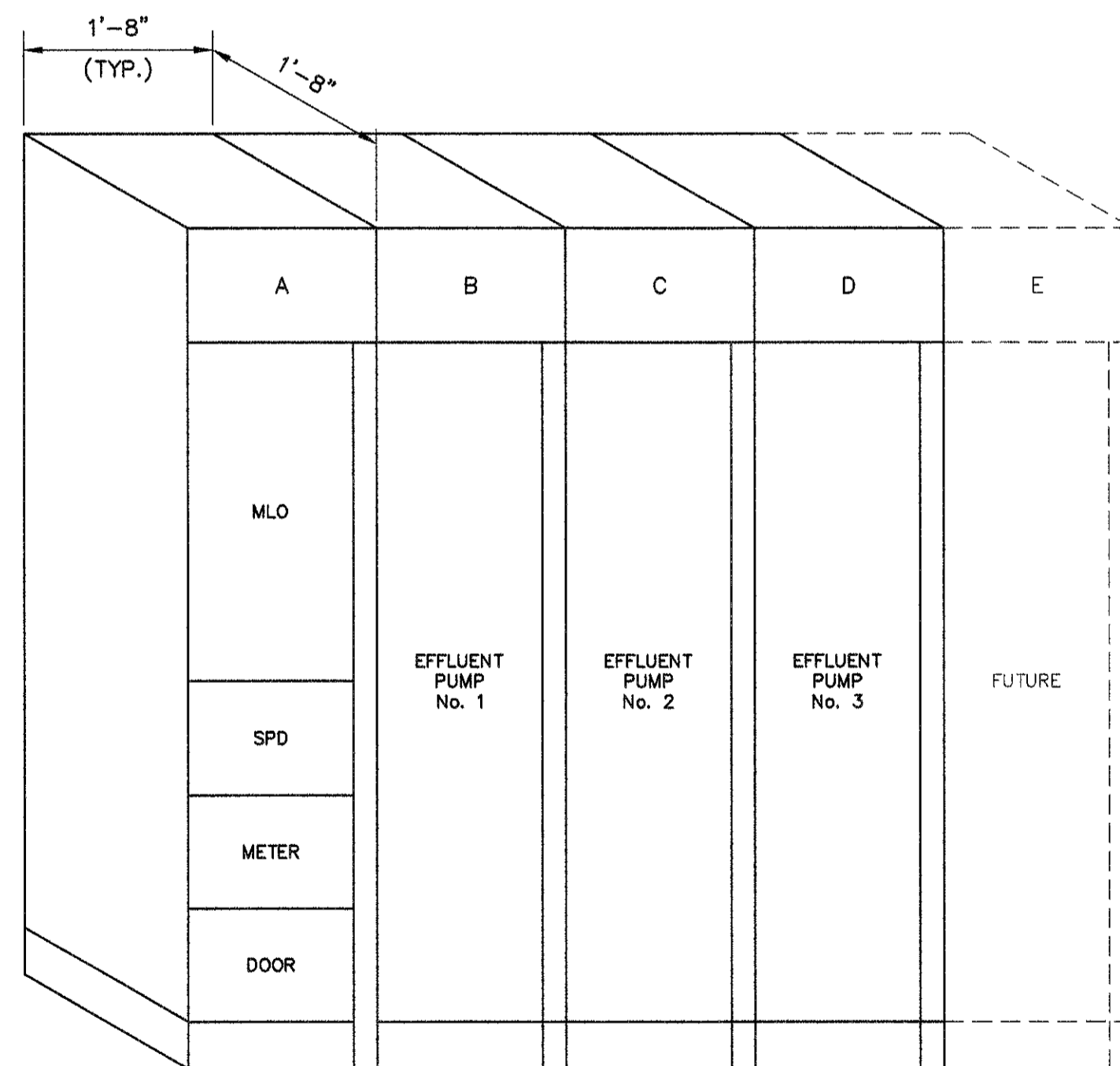
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		ELECTRICAL SINGLE LINE DIAGRAMS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental, Civil, Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 60 OF 77	



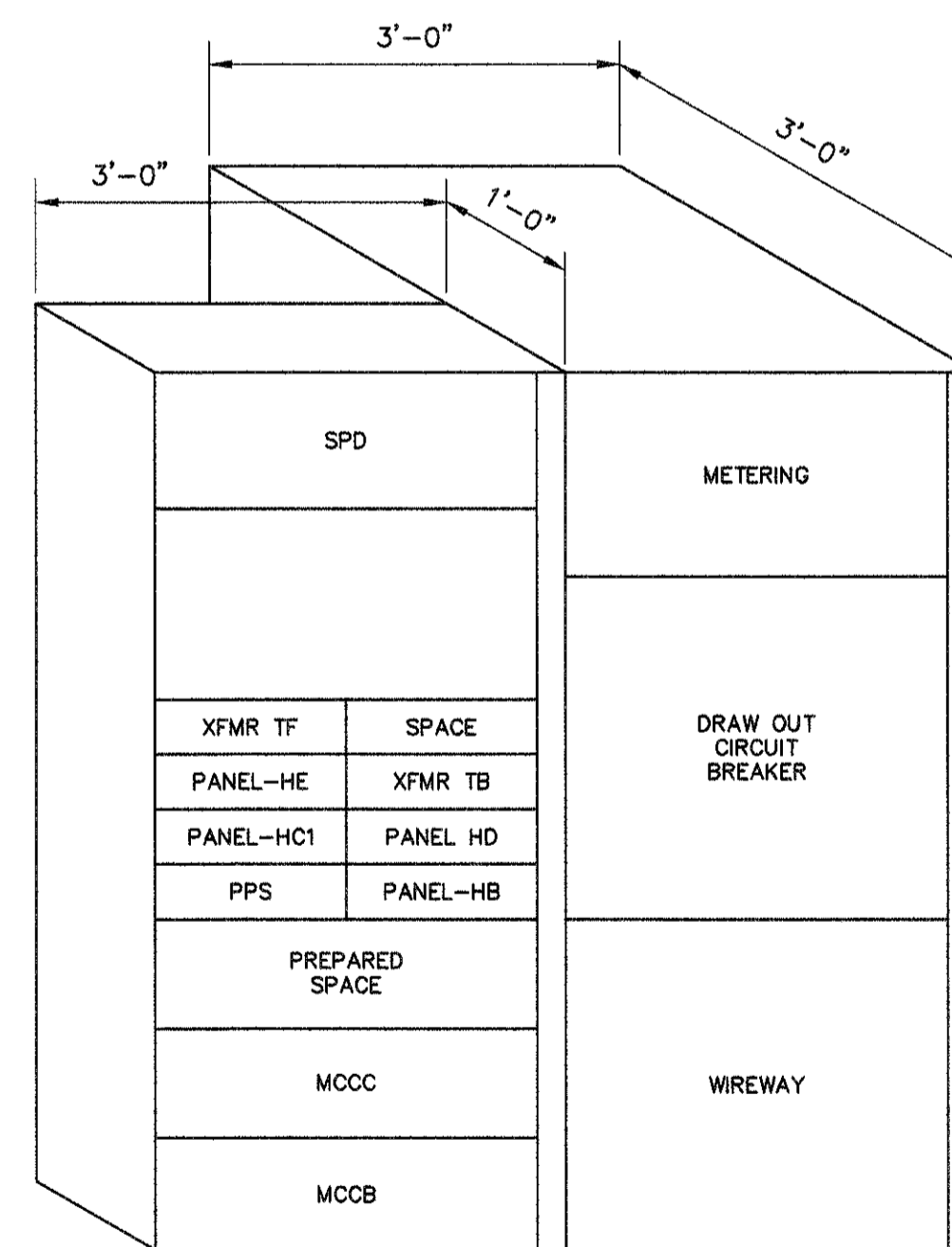
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PROPOSED MCC-B ELEVATION
SCALE: N.T.S.

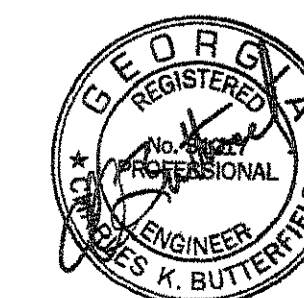


PROPOSED MCC-C ELEVATION
SCALE: N.T.S.



SWITCHBOARD ELEVATION
SCALE: N.T.S.

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REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
		ELECTRICAL ELEVATIONS	
DRAWN CHECKED			
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic			SHEET
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			61 OF 77

PROPOSED MAIN SWITCHBOARD										
NEMA 1A ENCLOSURE			LOCATION: BLOWER BUILDING			SERVICE ENTRANCE LABELED			AIC-42,000	
4000/2000AMCB			480 VOLTS			277Y480V, 3PH, 4W				
CIRCUIT	EXIST./PROP.	DEVICE	DESCRIPTION	LEGEND	HP	CON. AMPS	DEM AMPS	KVA	DEM/KVA	
1	PROPOSED	CB	1200A, 3PTM	MCCB	897.0	1146.2	990.2	924.7	795.0	
2	PROPOSED	CB	800A, 3PTM	MCCB	450.0	540.0	360.0	448.9	299.3	
3	FUTURE	CB	1200A, PREPARED SPACE	MCCB	0	0.0	0.0	0.0	0.0	
4	PROPOSED	CB	60A, 3PTM	PLANT PUMP STATION	30	48.2	46.2	38.4	38.4	
5	PROPOSED	CB	125A, 3PTM	PANEL HB BLOWER BUILDING	N/A	81.0	81.0	67.3	67.3	
6	PROPOSED	CB	200A, 3PTM	PANEL HC1 UV/FILTER	N/A	97.4	97.4	79.5	79.5	
7	PROPOSED	CB	125A, 3PTM	PANEL HD PRESS BUILDING	N/A	118.3	118.3	91.3	91.3	
8	PROPOSED	CB	60A, 3PTM	PANEL HE CHEMICAL FEED	N/A	37.1	37.1	27.0	27.0	
9	PROPOSED	CB	100A, 3PTM	25KVA XFMR TB	N/A	52.1	60.7	25.0	29.1	
10	PROPOSED	CB	150A, 3PTM	50KVA XFMR TB	N/A	104.2	97.9	50.0	47.0	
TOTALS					1377.0	2222.4	1888.7	1752.1	1473.8	

PROPOSED MOTOR CONTROL CENTER B										
NEMA 12 ENCLOSURE			LOCATION: BLOWER BUILDING			SERVICE ENTRANCE LABELED			AIC-42,000	
1200AMLO			480 VOLTS			277Y480V, 3PH, 4W				
CIRCUIT	EXIST./PROP.	DEVICE	DESCRIPTION	LEGEND	HP	CON. AMPS	DEM AMPS	KVA	DEM/KVA	
B1	PROPOSED	STARTER	NEMA 2, COMB. CB FVNR	SBR No. 1 MIXER	25	34.0	34.0	28.3	28.3	
B2	PROPOSED	STARTER	NEMA 2, COMB. CB FVNR	SBR No. 2 MIXER	25	34.0	34.0	28.3	28.3	
B3	PROPOSED	STARTER	NEMA 2, COMB. CB FVNR	SBR No. 3 MIXER	25	34.0	34.0	28.3	28.3	
B4	PROPOSED	STARTER	NEMA 2, COMB. CB FVNR	SBR No. 4 MIXER	25	34.0	34.0	28.3	28.3	
C1	PROPOSED	STARTER	NEMA 1, COMB. CB FVNR	SBR No. 1 SLUDGE PUMP	3	4.8	4.8	4.0	4.0	
C2	PROPOSED	STARTER	NEMA 1, COMB. CB FVNR	SBR No. 2 SLUDGE PUMP	3	4.8	4.8	4.0	4.0	
C3	PROPOSED	STARTER	NEMA 1, COMB. CB FVNR	SBR No. 3 SLUDGE PUMP	3	4.8	4.8	4.0	4.0	
C4	PROPOSED	STARTER	NEMA 1, COMB. CB FVNR	SBR No. 4 SLUDGE PUMP	3	4.8	4.8	4.0	4.0	
C5	PROPOSED	STARTER	NEMA 2, COMB. CB FVNR	POST AIR BLOWER	15	21.0	21.0	17.5	17.5	
D1	PROPOSED	STARTER	VARIABLE FREQUENCY DRIVE	BLOWER No. 1	125	156.0	156.0	129.7	129.7	
E1	PROPOSED	STARTER	VARIABLE FREQUENCY DRIVE	BLOWER No. 2	125	156.0	156.0	129.7	129.7	
F1	PROPOSED	STARTER	VARIABLE FREQUENCY DRIVE	BLOWER No. 3	125	156.0	156.0	129.7	129.7	
G1	PROPOSED	STARTER	VARIABLE FREQUENCY DRIVE	BLOWER No. 4	125	156.0	156.0	129.7	129.7	
H1	PROPOSED	STARTER	VARIABLE FREQUENCY DRIVE	BLOWER No. 5	125	156.0	0.0	129.7	0.0	
I1	PROPOSED	STARTER	REDUCED VOLTAGE SOFT START	FLOATING AERATOR No. 1	40	52.0	52.0	43.2	43.2	
I2	PROPOSED	STARTER	REDUCED VOLTAGE SOFT START	FLOATING AERATOR No. 2	40	52.0	52.0	43.2	43.2	
I3	PROPOSED	STARTER	REDUCED VOLTAGE SOFT START	FLOATING AERATOR No. 3	40	52.0	52.0	43.2	43.2	
I4	PROPOSED	STARTER	NEMA 2, COMB. CB FVNR	FLOATING MIXER No. 1	25	34.0	34.0	28.3	28.3	
TOTALS					897.0	1146.2	990.2	924.7	795.0	

PROPOSED MOTOR CONTROL CENTER C										
NEMA 12 ENCLOSURE			LOCATION: BLOWER BUILDING			SERVICE ENTRANCE LABELED			AIC-42,000	
800AMCB			480 VOLTS			277Y480V, 3PH, 4W				
CIRCUIT	EXIST./PROP.	DEVICE	DESCRIPTION	LEGEND	HP	CON. AMPS	DEM AMPS	KVA	DEM/KVA	
B1	PROPOSED	STARTER	REDUCED VOLTAGE SOFT START	EFFLUENT PUMP No. 1	150	180.0	180.0	149.5	149.5	
C1	PROPOSED	STARTER	REDUCED VOLTAGE SOFT START	EFFLUENT PUMP No. 2	150	180.0	180.0	149.5	149.5	
D1	PROPOSED	STARTER	REDUCED VOLTAGE SOFT START	EFFLUENT PUMP No. 3	150	180.0	180.0	149.5	149.5	
E1	FUTURE	STARTER	REDUCED VOLTAGE SOFT START	FUTURE EFFLUENT PUMP No. 4	0	0.0	0.0	0.0	0.0	
TOTALS					450.0	540.0	360.0	448.9	299.3	

PROPOSED THREE PHASE PANEL SCHEDULE "PANEL HB"									
125AMCB			277Y480V, 3PH, 4W			AIC, MAINS & CB'S-42,000			NEMA 12 ENCLOSURE
LOCATION - BLOWER BUILDING			MOUNTING SURFACE			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PHASE C	OF LOADS	POLES	NO.	TRIP
1	15/	INFLUENT VALVE No. 1	0.3	0.3				15/	2
3	/			0.3	0.3			/	4
5	/3				0.3	0.3		/3	6
7	15/	INFLUENT VALVE No. 3	0.3	0.3				15/	8
9	/			0.3	0.3			/	10
11	/3				0.3	0.3		/3	12
13	15/	DECANT VALVE No. 1	0.3	0.3				15/	14
15	/			0.3	0.3			/	16
17	/3				0.3	0.3		/3	18
19	15/	DECANT VALVE No. 3	0.3	0.3				15/	20
21	/			0.3	0.3			/	22
23	/3				0.3	0.3		/3	24
25	30/	UH-1	6.7	6.7				30/	26
27	/			6.7	6.7			/	28
29	/3				6.7	6.7		/3	30
31	30/	UH-1	6.7	-				SPACE	32
33	/			6.7	-			SPACE	34
35	/3				6.7	-		SPACE	36
37	20/1	SPACE	-	-	-	-	-	SPACE	38
39	20/1	SPACE	-	-	-	-	-	SPACE	40
41	20/1	SPACE	-	-	-	-	-	SPACE	42
KVA TOTALS			14.6	7.9	14.6	7.9	14.6	7.9	81.0

PROPOSED SINGLE PHASE LIGHTING PANEL SCHEDULE "PANEL LB"									
200AMCB			120/240V, 1PH, 3W			AIC, MAINS & CB'S-10,000			NEMA 12 ENCLOSURE
LOCATION - BLOWER BUILDING			MOUNTING SURFACE			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PHASE C	OF LOADS	POLES	NO.	TRIP
1	20/1	LIGHTS	0.9	0.9				20/1	2
3	20/1	LIGHTS	0.2	0.2				20/1	4
5	20/1	LIGHTS	0.5	0.2	1.7	0.9		20/1	6
7	20/1	EXHAUST FAN - 3	1.7	0.9				20/1	8
9	20/1	EXHAUST FAN - 3	1.7	0.9				20/1	10
11	20/1	EXHAUST FAN - 4	0.5	0.5				20/1	12
13	30/	AIR COMPRESSOR	1.9	1.0				20/	14
15	/2			1.9	1.0			/2	16
17	30/	PANEL-LG	2.8	0.5				SCADA (RTU-2)	18
19	/2			1.8	-			SPARE	20
21	30/	WATER HEATER	1.5	1.8				CU-1	22
23	/2			1.5	1.8			/2	24
25	20/1	SPACE	-	-	-	-	-	SPACE	26
27	20/1	SPACE	-	-	-	-	-	SPACE	28
29	20/1	SPACE	-	-	-	-	-	SPACE	30
31	20/1	SPACE	-	-	-	-	-	SPACE	32
33	20/1	SPACE	-	-	-	-	-	SPACE	34
35	20/1	SPACE	-	-	-	-	-	SPACE	36
37	20/1	SPACE	-	-	-	-	-	SPACE	38
39	20/1	SPACE	-	-	-	-	-	SPACE	40
41	20/1	SPACE	-	-	-	-	-	SPACE	42
KVA TOTALS			14.6	5.3	7.8	5.2		27.3	121.4A

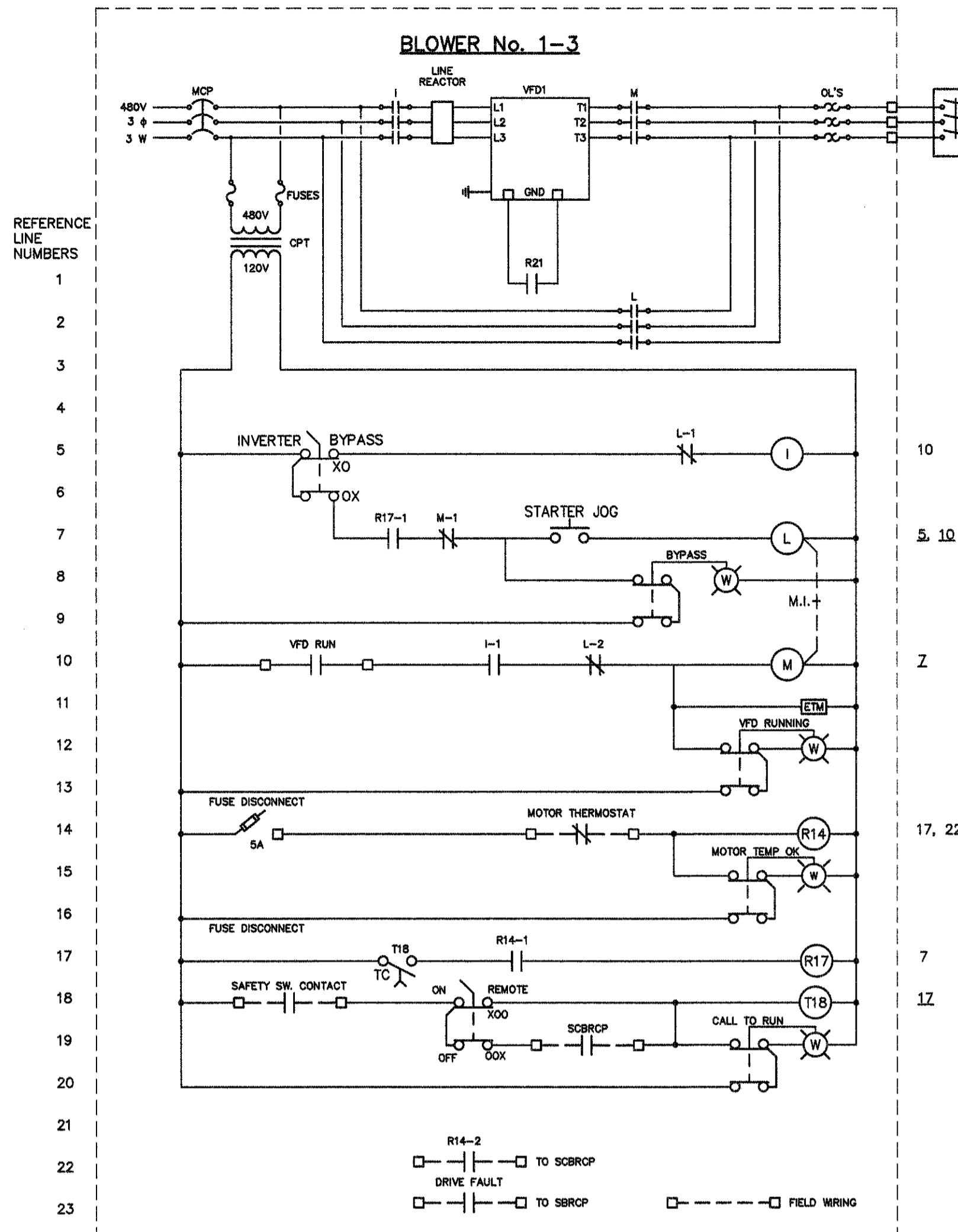
PROPOSED THREE PHASE PANEL SCHEDULE "PANEL HC-1"									
200AMCB			277Y480V, 3PH, 4W			AIC, MAINS & CB'S-10,000			NEMA 3R ENCLOSURE
LOCATION - FILTER STRUCTURE			MOUNTING SURFACE			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PHASE C	OF LOADS	POLES	NO.	TRIP
1	25/	FILTER No. 1	3.2	3.2				25/	2
3	/			3.2	3.2			/	4
5	/3				3.2	3.2		/3	6
7	25/	PDC No. 1	5.3	-				FUTURE PDC No. 2	8
9	/			5.3	-			/	10
11	/3				5.3	-		/3	12
13	30/	H.S.C.	1.7	1.0				PANEL-LC	14
15	/			1.7	1.0			/	16
17	/3				1.7	-		SPACE	18
19	100/	SUBFEED HC-2	12.7	-				FUTURE FILTER No. 4	20
21	/			12.5	-			/	22
23	/3				12.5	-		/3	24
25	25/	FUTURE FILTER No. 3	-	-	-	-	-	SPACE	26
27	/			-	-	-	-	SPACE	28
29	30/			-	-	-	-	SPACE	30
31	20/1	SPACE	-	-	-	-	-	SPACE	32
33	20/1	SPACE	-	-	-	-	-	SPACE	34
35	20/1	SPACE	-	-	-	-	-	SPACE	36
37	20/1	SPACE	-	-	-	-	-	SPACE	38
39	20/1	SPACE	-	-	-	-	-	SPACE	40
41	20/1	SPACE	-	-	-	-	-	SPACE	42
KVA TOTALS			22.8	4.2	22.6	4.2	22.6	3.2	97.4A

SINGLE PHASE MIN-POWER ZONE SCHEDULE "PANEL LC1"									
PRIMARY-15A SECONDARY-30A			120/240V, 1PH, 3W			AIC, MAINS & CB'S-10,000			NEMA 4X ENCLOSURE
LOCATION - CHEMICAL FEED			5KVA			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PHASE C	OF LOADS	POLES	NO.	TRIP
1	20/1	SOCC	0.5	0.1				20/1	2
3	20/1	SAMPLER	0.5	0.5				FLOW METER	4
5	20/1	RECEPT/LIGHTS	0.2	-	-	-	-	GATE	6
7	20/1	SPACE	-	-	-	-	-	SPACE	8
9	20/1	SPACE	-	-	-	-	-	SPACE	10
KVA TOTALS			0.8	1.0		1.8		8.3A	

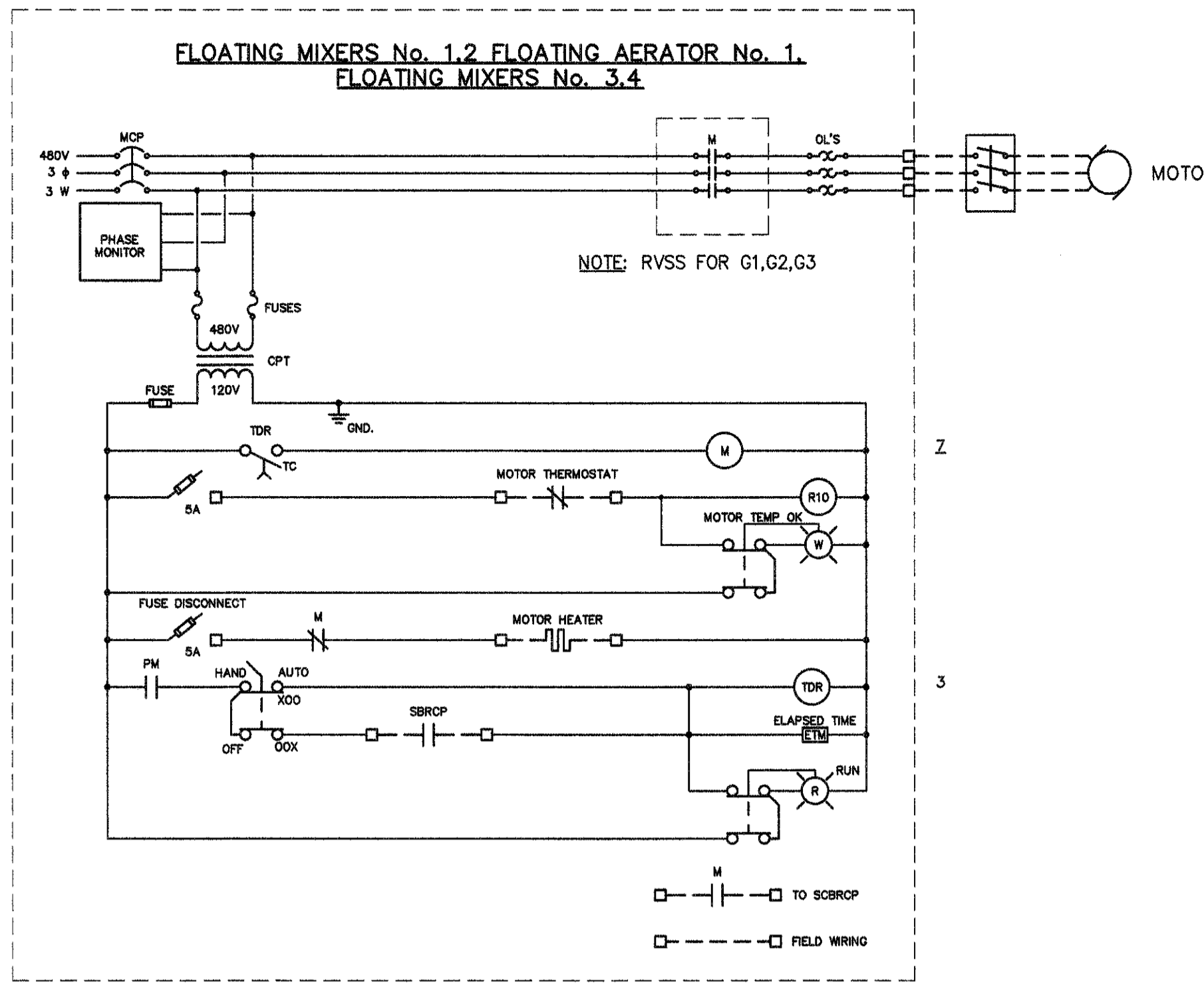
PROPOSED THREE PHASE PANEL SCHEDULE "PANEL HC-2"									
100AMCB			277Y480V, 3PH, 4W			AIC, MAINS & CB'S-10,000			NEMA 12 ENCLOSURE
LOCATION - EFFLUENT STRUCTURE			MOUNTING SURFACE			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PHASE C	OF LOADS	POLES	NO.	TRIP
1	50/	HOIST	2.1	9.4				50/	2
3	/			2.1	9.4			/	4
5	/3				2.1	9.4		/3	6
7	15/	TRANSFORMER TC	1.2	-				SPACE	8
9	/2			1.0	-			SPACE	10
11	20/1	SPACE	-	-	-	-	-	SPACE	12
13	20/1	SPACE	-	-	-	-	-	SPACE	14
15	20/1	SPACE	-	-	-	-	-	SPACE	16
17	20/1	SPACE	-	-	-	-	-	SPACE	18
19	100/	MAINS	-	-	-	-	-	SPACE	20
21	/			-	-	-	-	SPACE	22
23	/3				-	-	-	SPACE	24
KVA TOTALS			3.3	9.4	3.1	9.4	3.1	9.4	46.0A

PROPOSED SINGLE PHASE MIN-POWER ZONE SCHEDULE "PANEL LC2"									
PRIMARY-15A SECONDARY-30A			120/240V, 1PH, 3W			AIC, MAINS & CB'S-10,000			NEMA 4X ENCLOSURE
LOCATION - CHEMICAL FEED			5KVA			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PHASE C	OF LOADS	POLES	NO.	TRIP
1	20/1	LIGHTING	0.6	0.4				20/1	2
3	20/1	EFF. PUMP PANEL	0.2	-	-	-	-	FLOW METER	4
5	20/1	HEATED ENCLOSURE	0.2	-	-	-	-	SPACE	6
7	20/1	SPACE	-	-	-	-	-	SPACE	8
9	20/1	SPACE	-	-	-	-	-	SPACE	10
KVA TOTALS			1.2	1.0		2.2		10.1A	

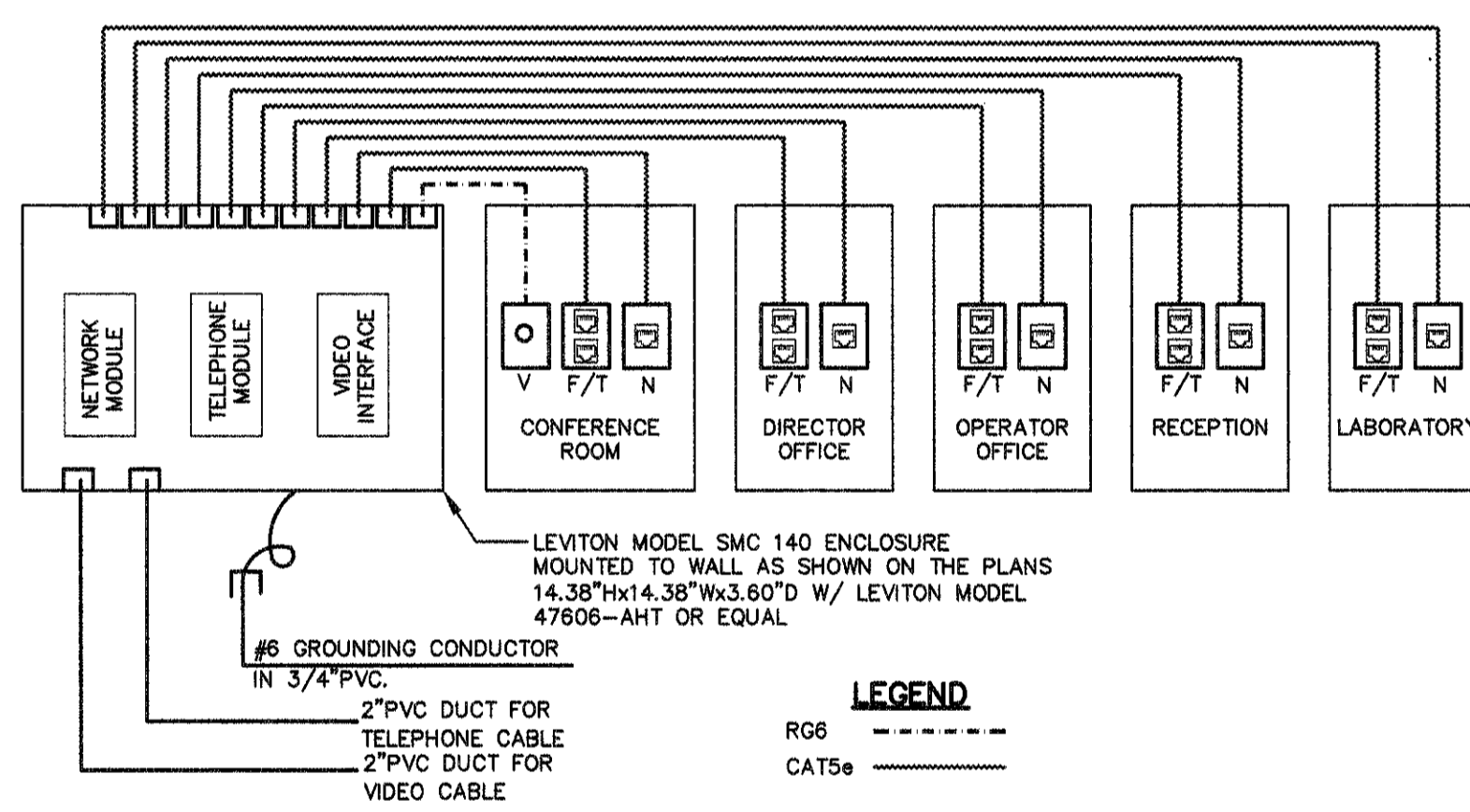
PROPOSED THREE PHASE PANEL SCHEDULE "PANEL HD"									
150AMCB			277Y480V, 3PH, 4W			AIC, MAINS & CB'S-42,000			NEMA 12 ENCLOSURE
LOCATION - PRESS BUILDING			MOUNTING SURFACE			DESCRIPTION			TRIP
NO.	POLES	OF LOADS	PHASE A	PHASE B	PH				



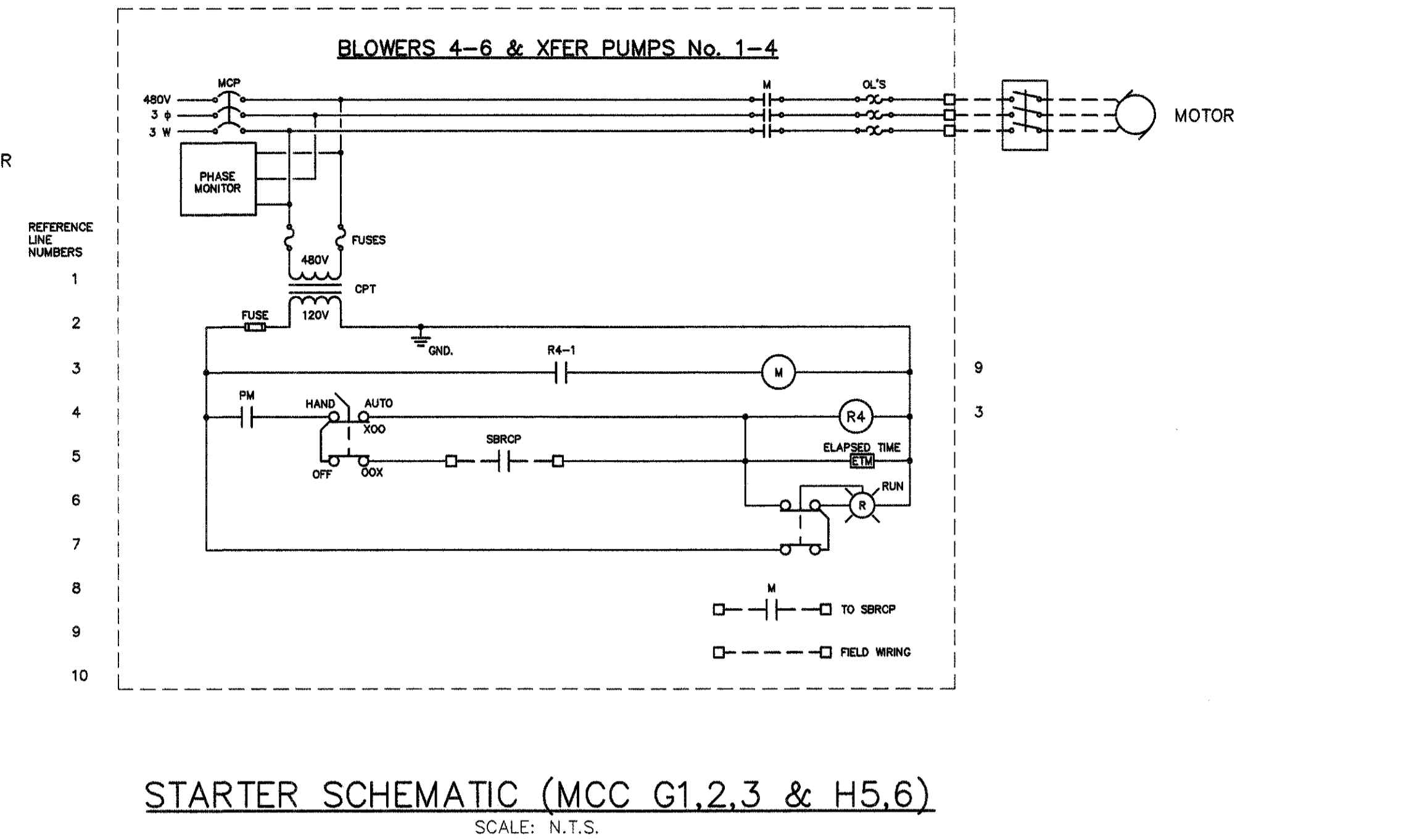
VFD Schematic (VFDs D1, E1, F1)
SCALE: N.T.S.



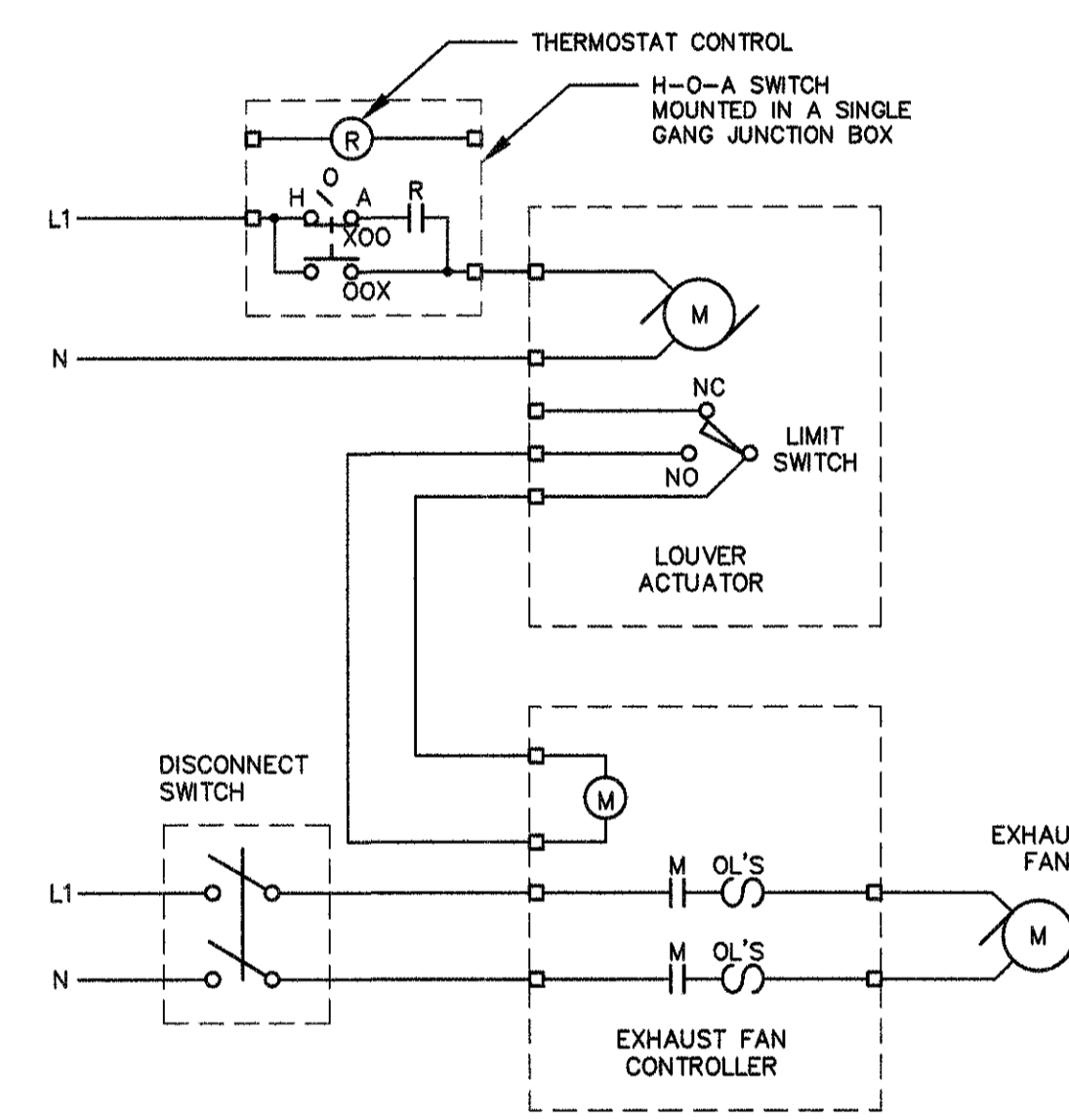
STARTER SCHEMATIC (MCC G1,2,3 & H5,6)
SCALE: N.T.S.



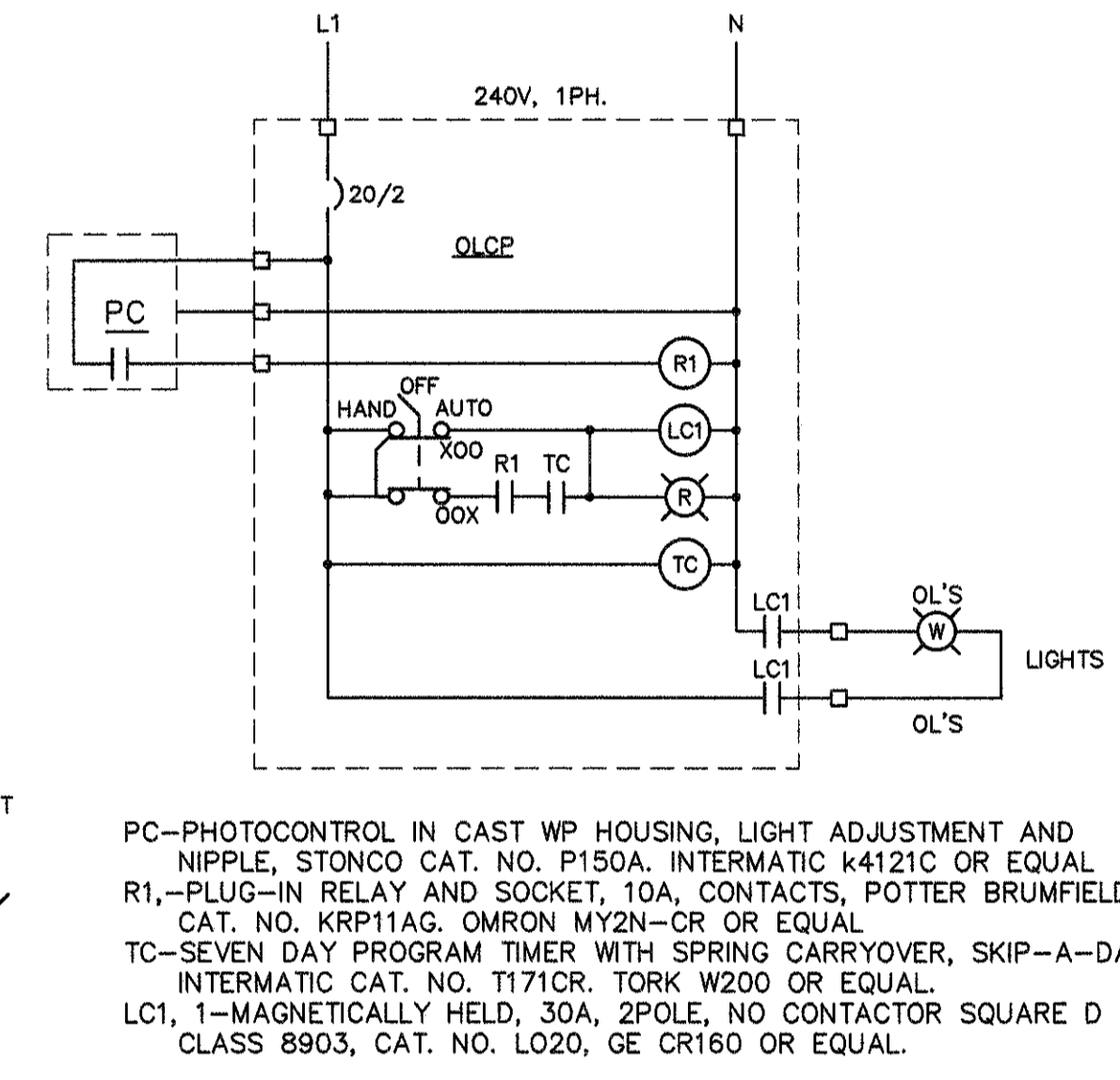
TELEPHONE/VIDEO RISER DIAGRAM
SCALE: N.T.S.



STARTER SCHEMATIC (MCC G1,2,3 & H5,6)
SCALE: N.T.S.



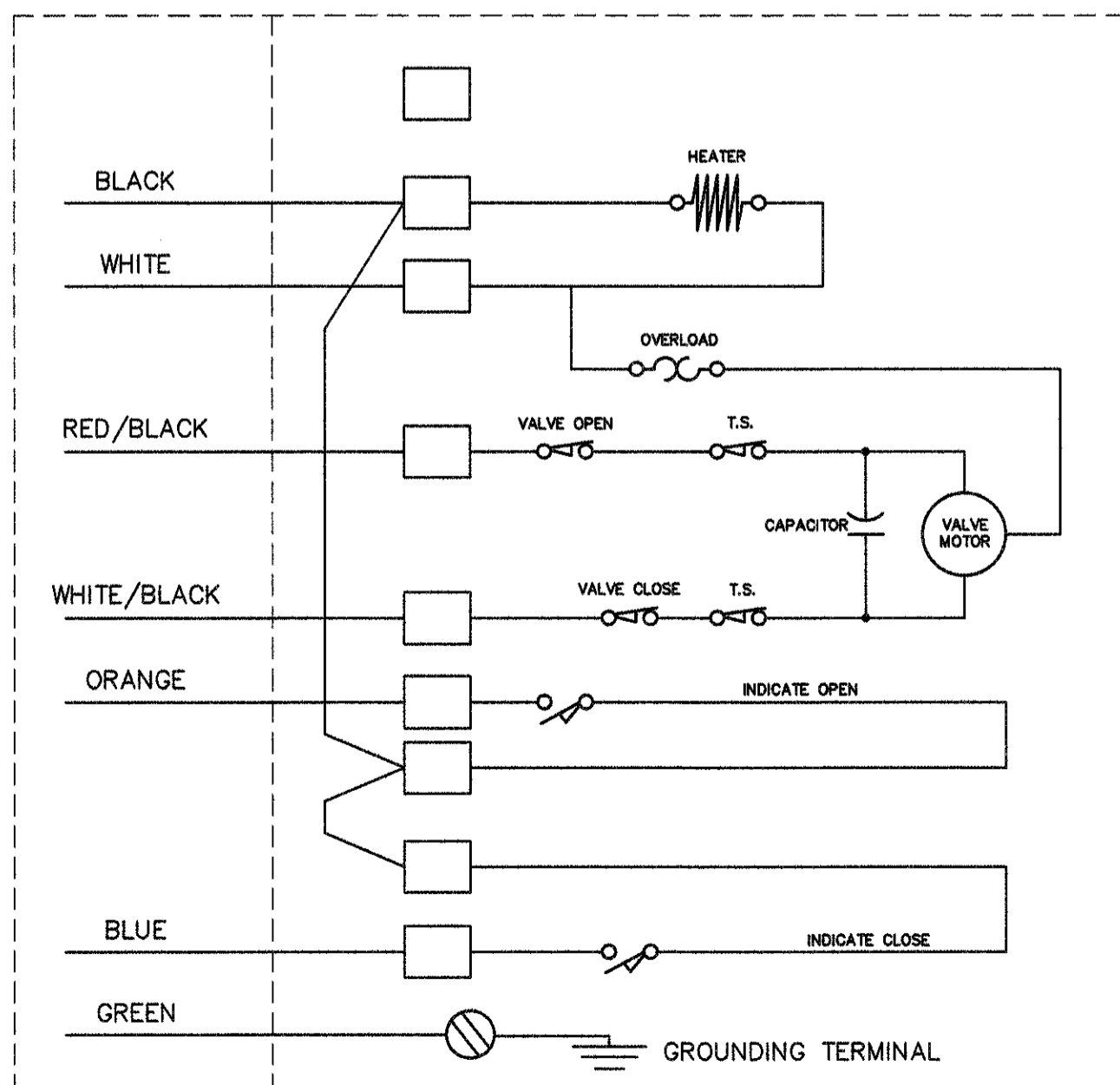
EXHAUST FAN INTERCONNECTION DIAGRAM
SCALE: N.T.S.



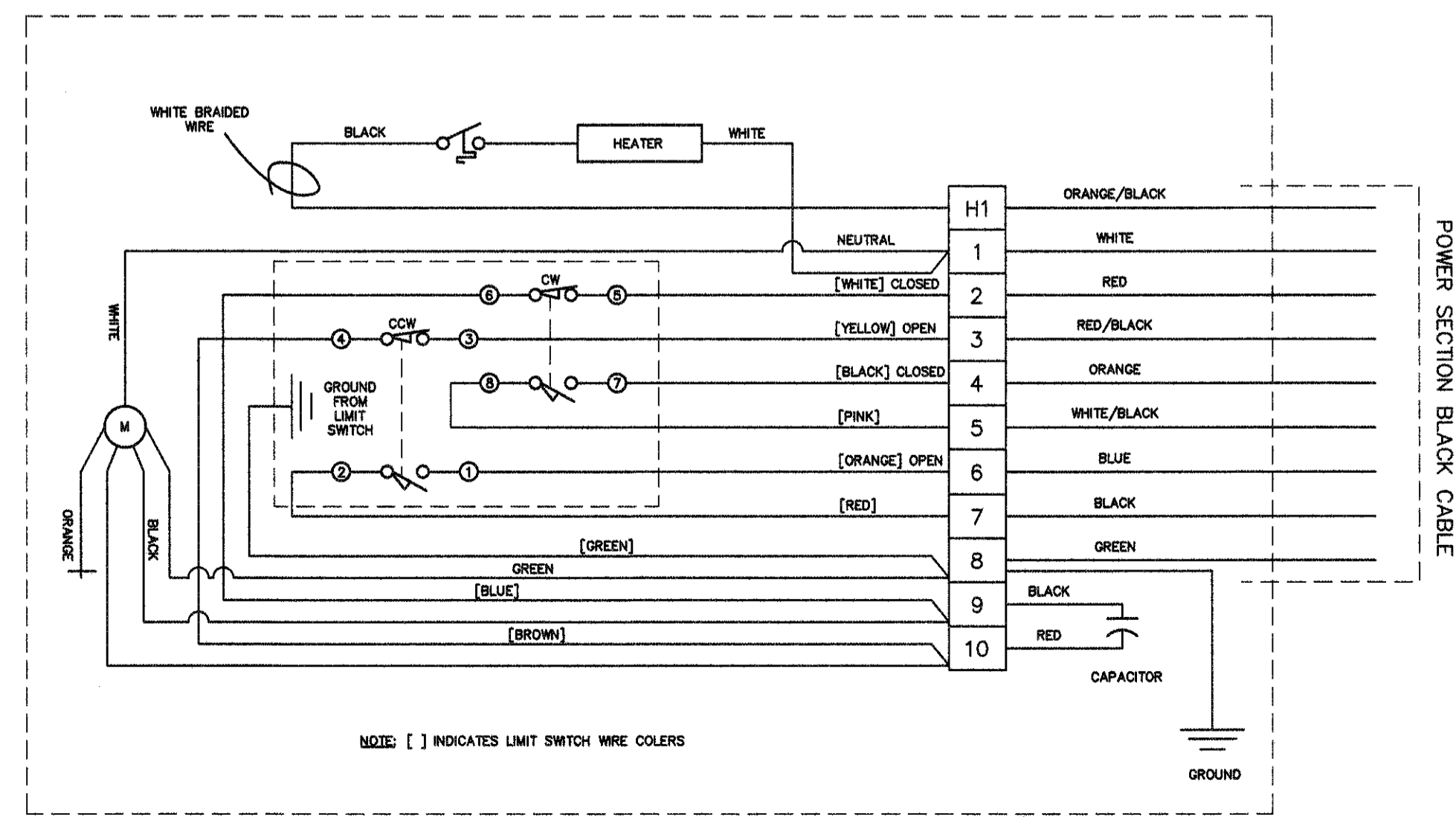
OUTSIDE LIGHTING CONTROL PANEL
SCALE: N.T.S.

NOTES:

- A COMPLETE DIAGRAM WITH DEVICE NOMENCLATURE, WIRE NUMBERING AND PHYSICAL LAYOUT SHALL BE MADE FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION.



THROTTLING VALVE WIRING DIAGRAM
SCALE: N.T.S.

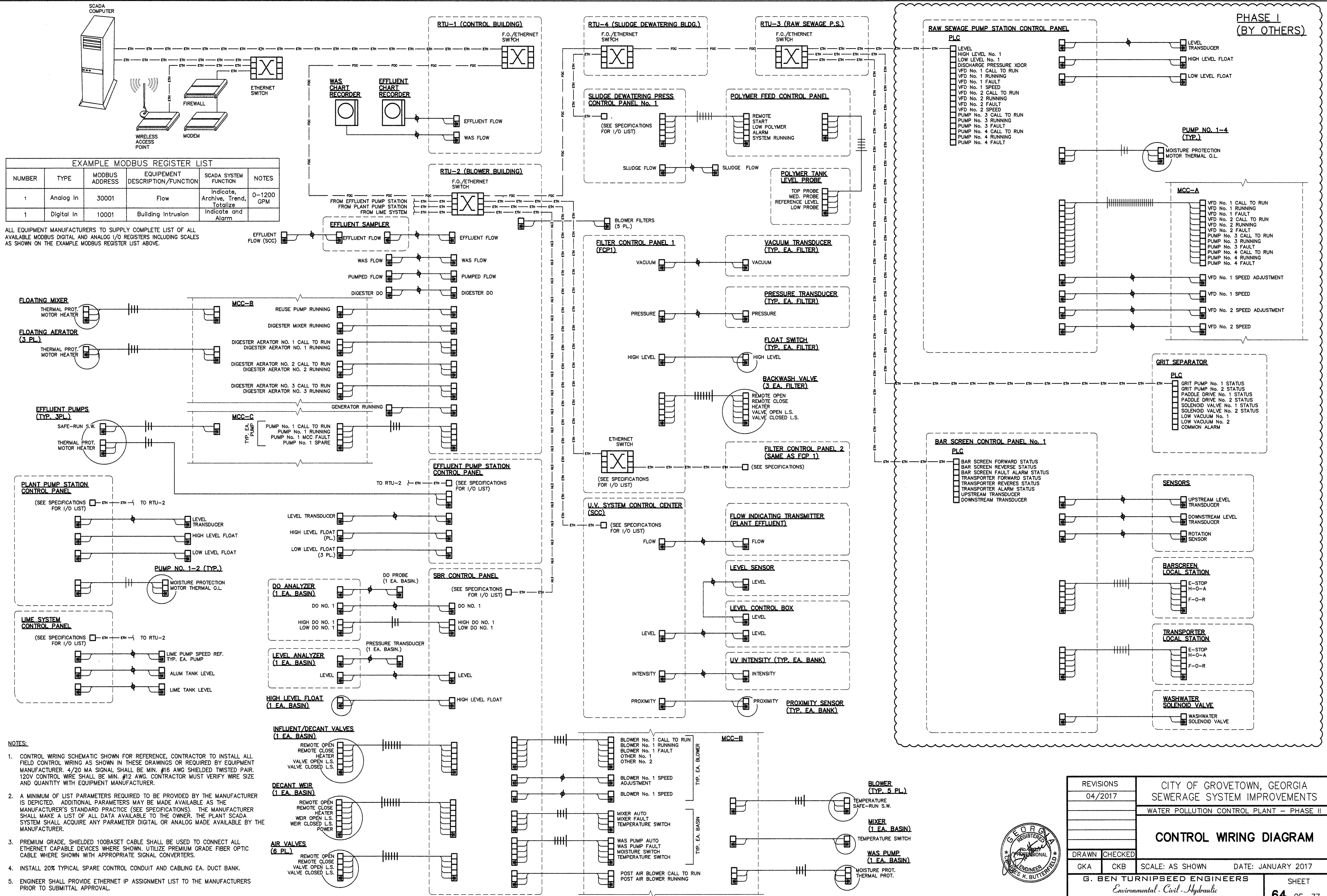


TYP. DECANTER WIRING DIAGRAM WITH HEATER
SCALE: N.T.S.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		ELECTRICAL ELEMENTARY DIAGRAMS	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB		
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 63 OF 77	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			

**PHASE I
(BY OTHERS)**



EXAMPLE MODBUS REGISTER LIST

NUMBER	TYPE	MODBUS ADDRESS	EQUIPMENT DESCRIPTION/FUNCTION	SCADA SYSTEM FUNCTION	NOTES
1	Analog In	30001	Flow	Indicate, Archive, Trend, Totalize	0-1200 GPM
1	Digital In	10001	Building Intrusion	Indicate and Alarm	

ALL EQUIPMENT MANUFACTURERS TO SUPPLY COMPLETE LIST OF ALL AVAILABLE MODBUS DIGITAL AND ANALOG I/O REGISTERS INCLUDING SCALES AS SHOWN ON THE EXAMPLE MODBUS REGISTER LIST ABOVE.

- NOTES:**
- CONTROL WIRING SCHEMATIC SHOWN FOR REFERENCE, CONTRACTOR TO INSTALL ALL FIELD CONTROL WIRING AS SHOWN IN THESE DRAWINGS OR REQUIRED BY EQUIPMENT MANUFACTURER. 4/20 MA SIGNAL SHALL BE MIN. #16 AWG SHIELDED TWISTED PAIR. 120V CONTROL WIRE SHALL BE MIN. #12 AWG. CONTRACTOR MUST VERIFY WIRE SIZE AND QUANTITY WITH EQUIPMENT MANUFACTURER.
 - A MINIMUM OF LIST PARAMETERS REQUIRED TO BE PROVIDED BY THE MANUFACTURER IS DEPICTED. ADDITIONAL PARAMETERS MAY BE MADE AVAILABLE AS THE MANUFACTURER'S STANDARD PRACTICE (SEE SPECIFICATIONS). THE MANUFACTURER SHALL MAKE A LIST OF ALL DATA AVAILABLE TO THE OWNER. THE PLANT SCADA SYSTEM SHALL ACQUIRE ANY PARAMETER DIGITAL OR ANALOG MADE AVAILABLE BY THE MANUFACTURER.
 - PREMIUM GRADE, SHIELDED 100BASET CABLE SHALL BE USED TO CONNECT ALL ETHERNET CAPABLE DEVICES WHERE SHOWN. UTILIZE PREMIUM GRADE FIBER OPTIC CABLE WHERE SHOWN WITH APPROPRIATE SIGNAL CONVERTERS.
 - INSTALL 20% TYPICAL SPARE CONTROL CONDUIT AND CABLING EA. DUCT BANK.
 - ENGINEER SHALL PROVIDE ETHERNET IP ASSIGNMENT LIST TO THE MANUFACTURERS PRIOR TO SUBMITTAL APPROVAL.

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		CONTROL WIRING DIAGRAM	
DRAWN (CKA) CHECKED (CKB)			
SCALE: AS SHOWN		DATE: JANUARY 2017	
G. BEN TURNIPSEED ENGINEERS <i>Environmental · Civil · Hydraulic</i>		SHEET 64 OF 77	
ATLANTA · AUGUSTA · ST. SIMONS ISLAND, GEORGIA			

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ELECTRICAL SYMBOLS

(ALL OR SOME OF THESE SYMBOLS MAY BE USED ON THESE DRAWINGS)

ELECTRICAL PLANS	
	PROVIDE RACEWAY, CONCEALED IN CEILING OR WALL.
	PROVIDE RACEWAY, CONCEALED IN FLOOR OR UNDERGROUND.
	PROVIDE RACEWAY, EXPOSED.
	PROVIDE RACEWAY, FLEXIBLE.
	EXISTING RACEWAY
	BRANCH CIRCUIT, HOMERUN TO PANEL BOARD: CIRCUIT WITHOUT FUTURE DESIGNATIONS, IS 2 # 12, 3/4" C, 3 # 12, 3/4" C, 4 # 12, 3/4" C. ALL WITH CODE SIZED GROUND.
	HOMERUN WITH 2/C SHIELDED, TWISTED NO. 16 SIGNAL CABLE IN 3/4" C.
	DISTRIBUTION PANELBOARD (DA)
	LIGHTING PANELBOARD (LA ETC.), FLUSH OR SURFACE.
	TRANSFORMER, FLOOR WALL OR CEILING MOUNTED
	MOTOR CONTROL CENTER (MCCA ETC.)
	WALL OUTLET, DUPLEX RECEPTACLE, 15A, 125V, 3W, NEMA 5-15R, HUBBELL CAT. NO. 5252, ARROW HART 1591 OR EQUAL.
	WALL OUTLET, DUPLEX REC., 15A, 125V, 3W, NEMA 5-15R, MOUNTED AS INDICATED HUBBELL CAT. NO. 5252 ARROW HART 1591 OR EQUAL. W/ SLATER 3780 COVER
	DUPLEX GROUND TRIP RECEPTACLE, HUBBELL CAT. NO. GF5252, ARROW HART 1591 OR EQUAL
	SWITCH OUTLET, A.C. TYPE, SINGLE POLE, 15A, 125/277V, HUBBELL CAT. NO. 1201 LEGRAND P515AC1 OR EQUAL.
	SWITCH OUTLET, A.C. TYPE, THREE / FOUR WAY, 15A, 125/277V, (3, DENOTES THREE WAY, 4 DENOTES FOUR WAY) HUBBELL CAT. NO. 1203 LEGRAND P515AC3 OR EQUAL.
	MOTOR RATED SWITCH OUTLET, A.C. TYPE, 30A, 600V. HUBBELL CAT. NO. HBL7832FMD, LEGRAND 7802 OR EQUAL.
	PASSIVE INFRARED NIGHTLIGHT WALL SWITCH SENSOR, LEGRAND WATT STOPPER WN-100, HUBBELL IW52F3P OR EQUAL.
	6" BRASS POP UP FLOOR PLATE LEW ELECTRIC PUPP-BC, 3/4" HOMERUN CATBE TO THE TELEPHONE BACKBOARD OR NETWORK SWITCH, (T=TELEPHONE, F=FAK, N=NETWORK)
	COMMUNICATION OUTLET WITH BUSHED COVER PLATE, 3/4" HOMERUN CATBE TO THE TELEPHONE BACKBOARD OR NETWORK SWITCH, (T=TELEPHONE, F=FAK, N=NETWORK, A=ALL)
	RISER, UP OR DOWN.
	WALL OUTLET, JUNCTION BOX, EXPOSED OR SURFACE MOUNTED WP.
	WALL OUTLET, JUNCTION BOX, FLUSH.
	GROUND MOUNTED JUNCTION BOX.
	TELEPHONE BACKBOARD (TBB)
	MOTOR, HP SHOWN.
	UNIT HEATER, KW SHOWN.
	WALL OR BASEBOARD HEATER, KW SHOWN.
	MOTOR STARTER.
	SENSOR, PRESSURE TRANSDUCER, FLOW TRANSDUCER, FLOAT SWITCH ETC.
	SAFETY SWITCH, AMPS/POLES/ENCLOSURE.

LIGHTING PLANS	
	EMERGENCY LIGHT 1, 2, OR 3 HEAD, SURFACE MOUNTED
	EXIT LIGHT, WALL MOUNTED, ABOVE DOOR
	STREET LIGHT
	POLE MOUNTED FLOOD LIGHT(S), EA. TRIANGLE REPRESENTS FIXTURE
	WALL MOUNTED FLOOD LIGHT OR WALL-PAK
	FLUORESCENT FIXTURE, SINGLE OR CONTINUOUS LENGTHS AS SHOWN

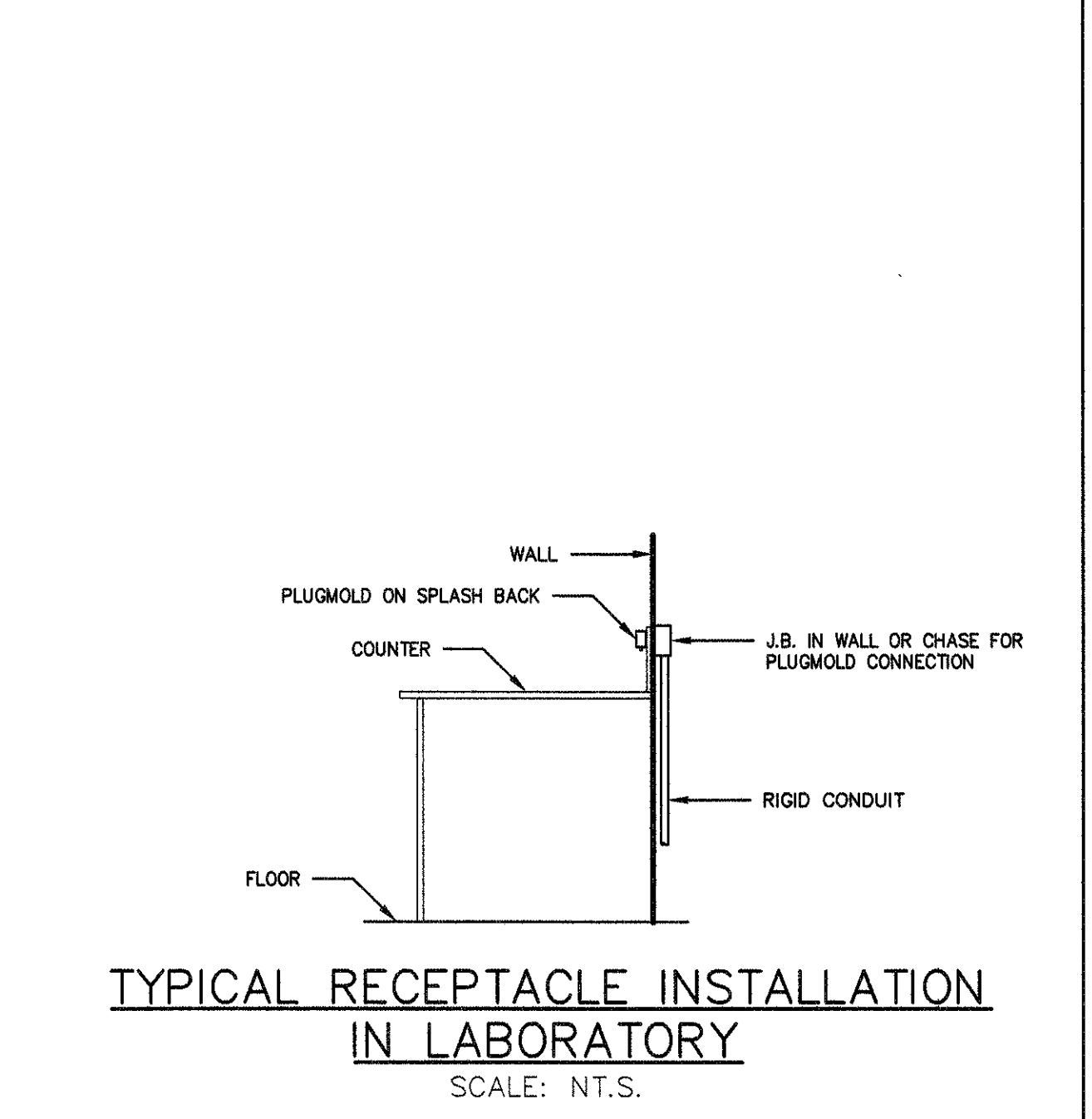
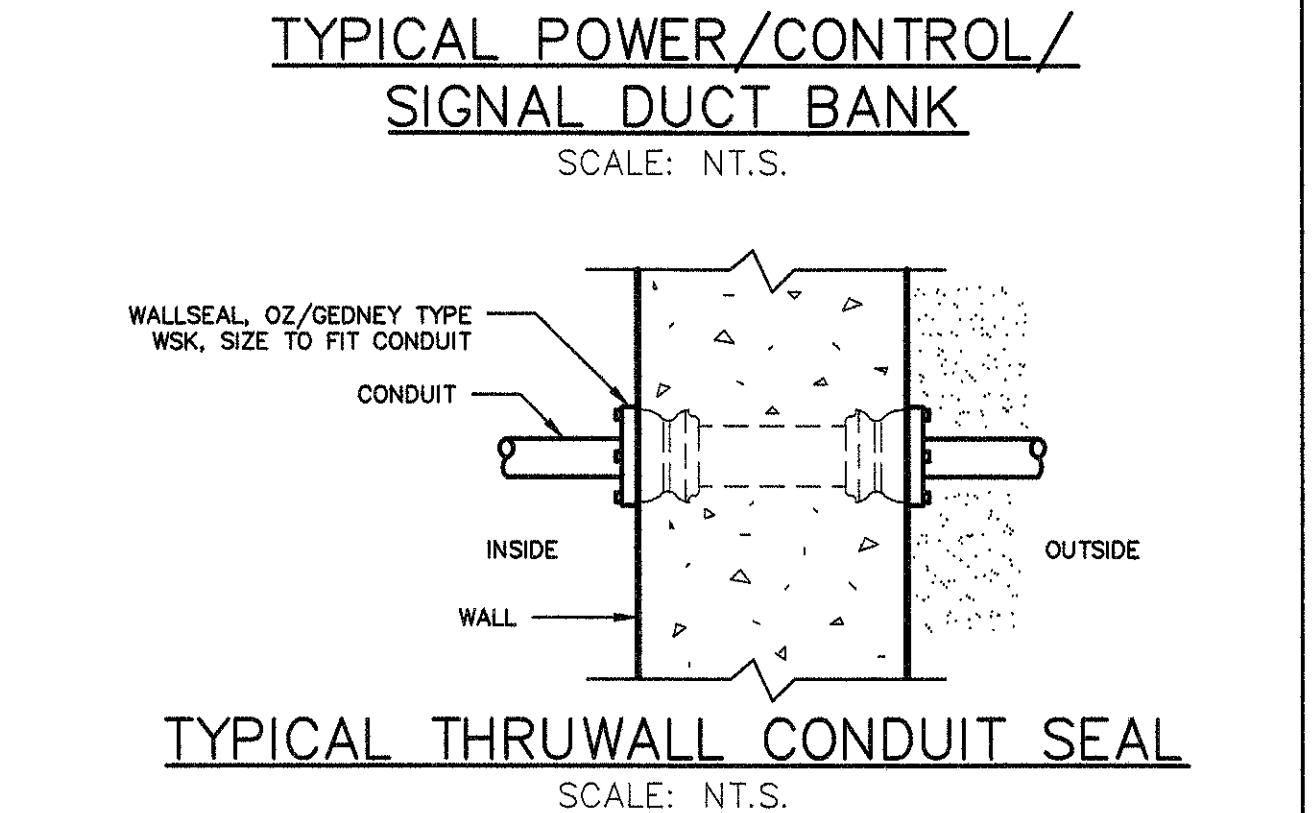
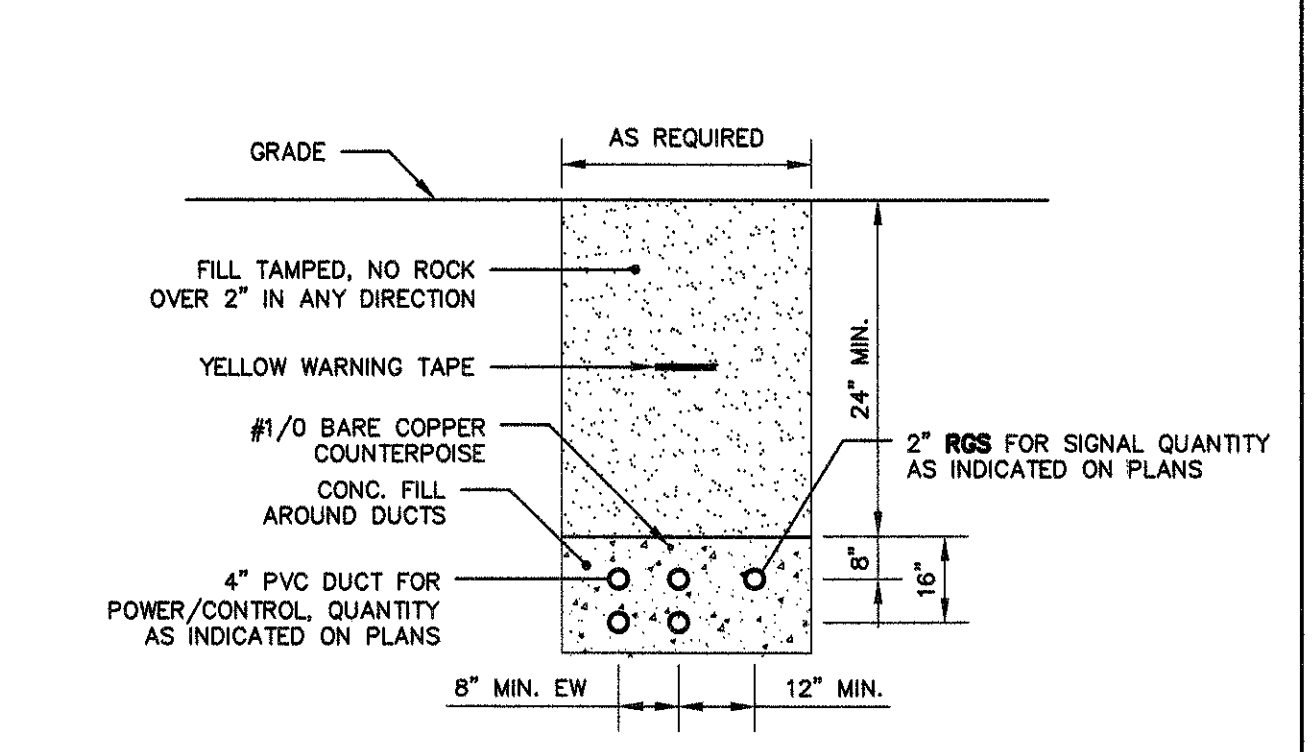
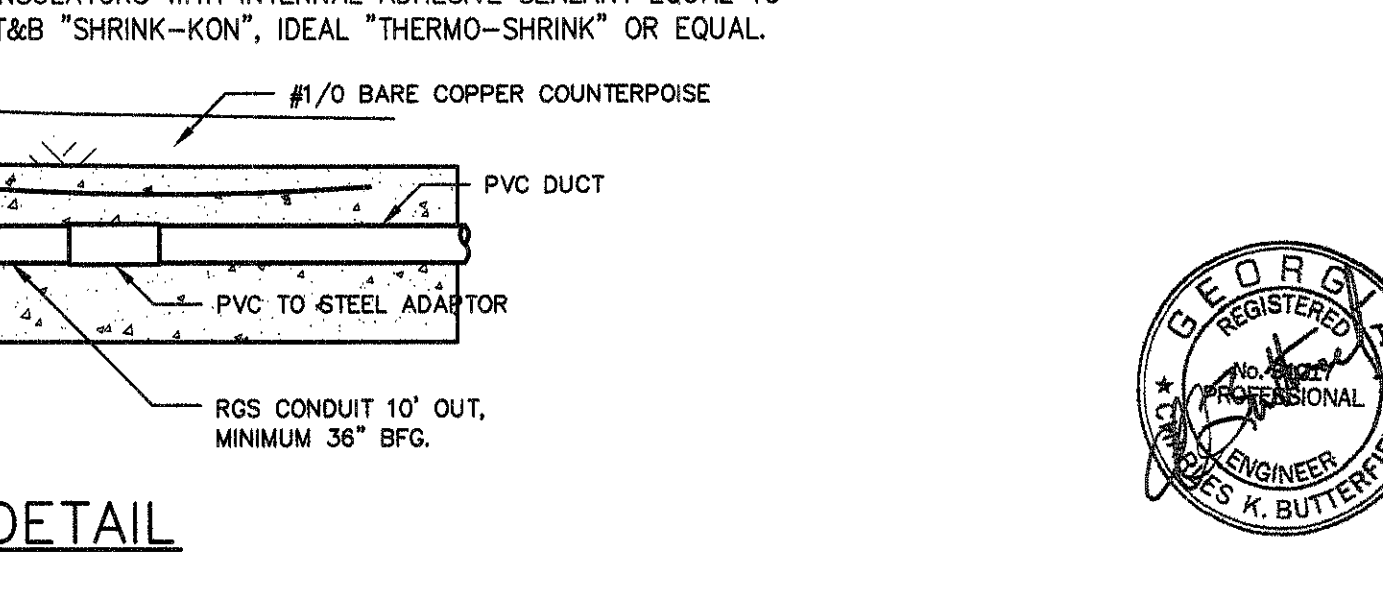
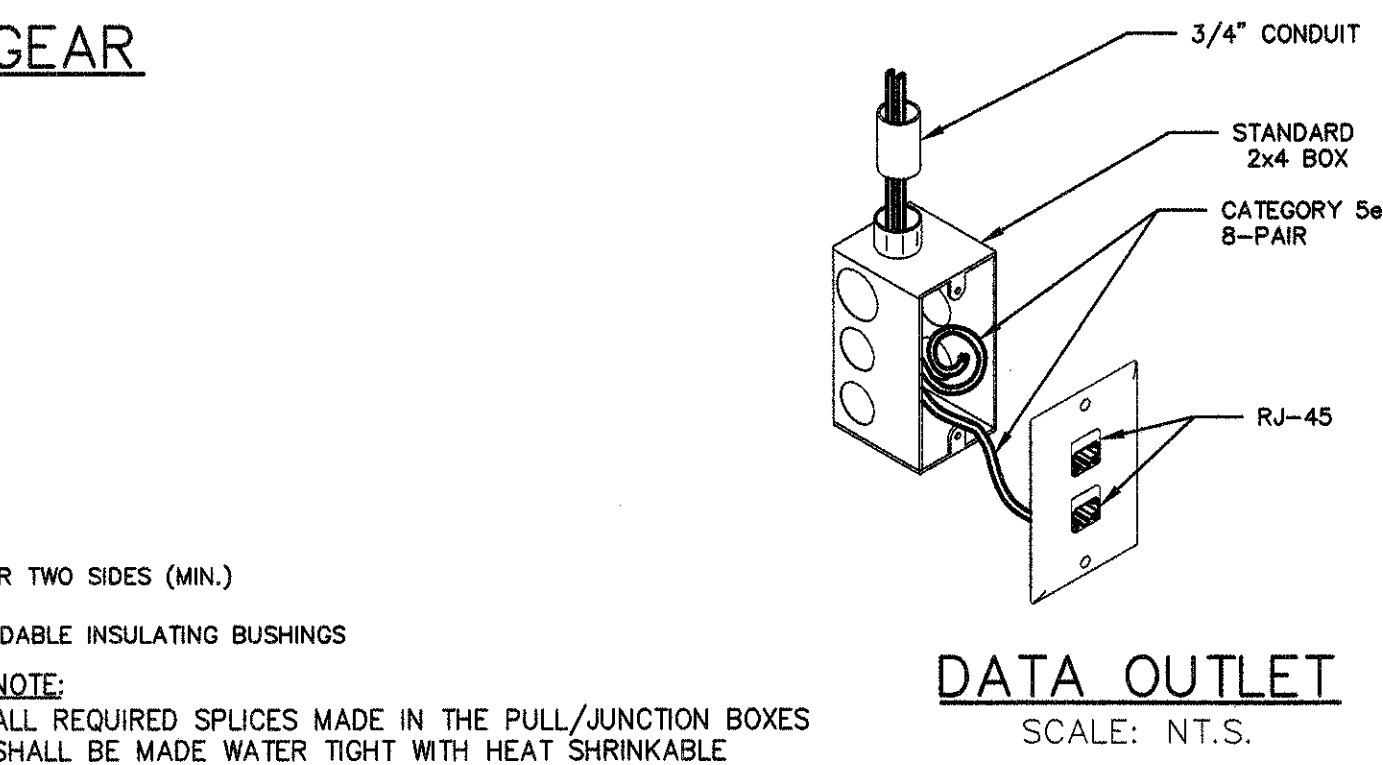
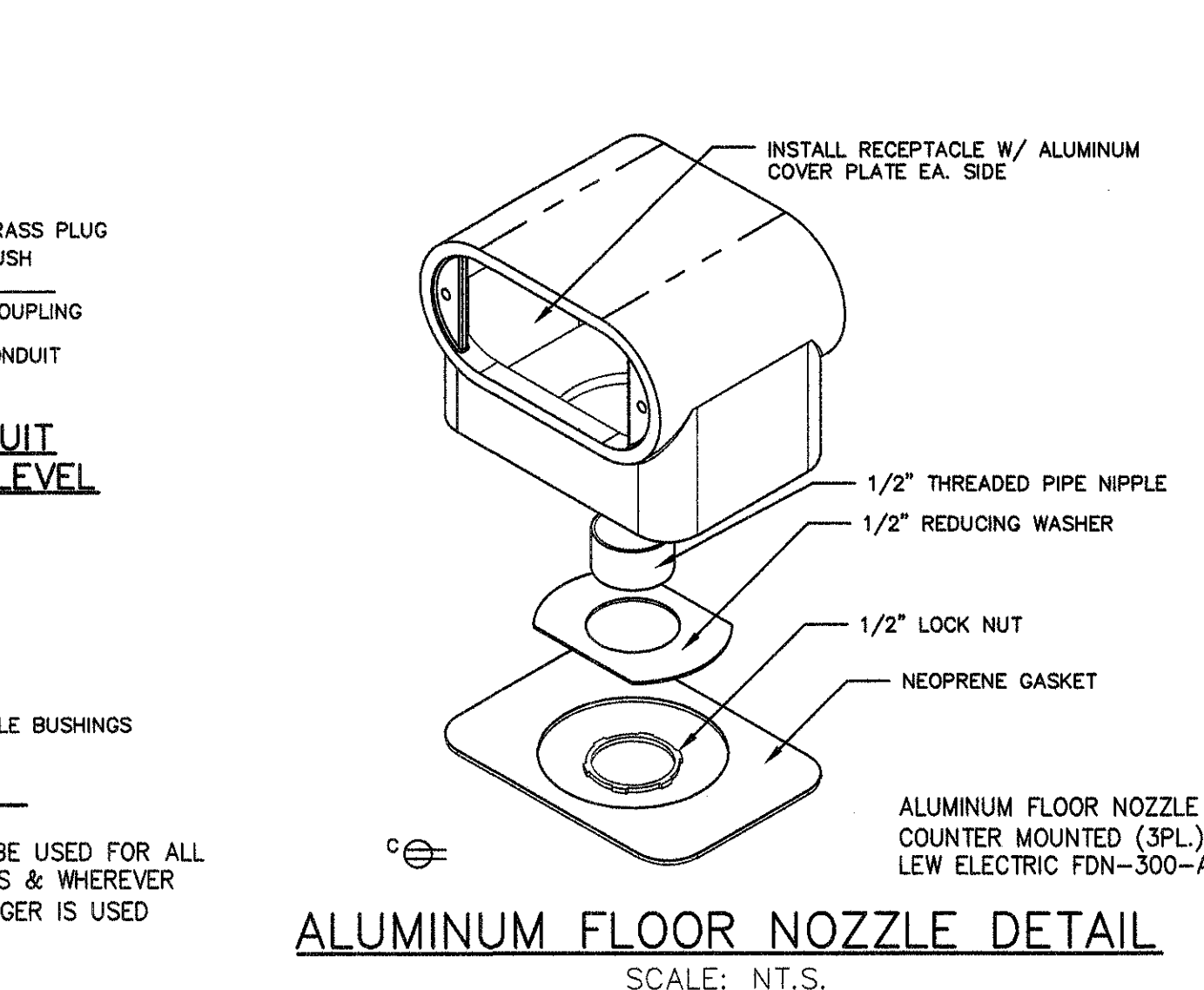
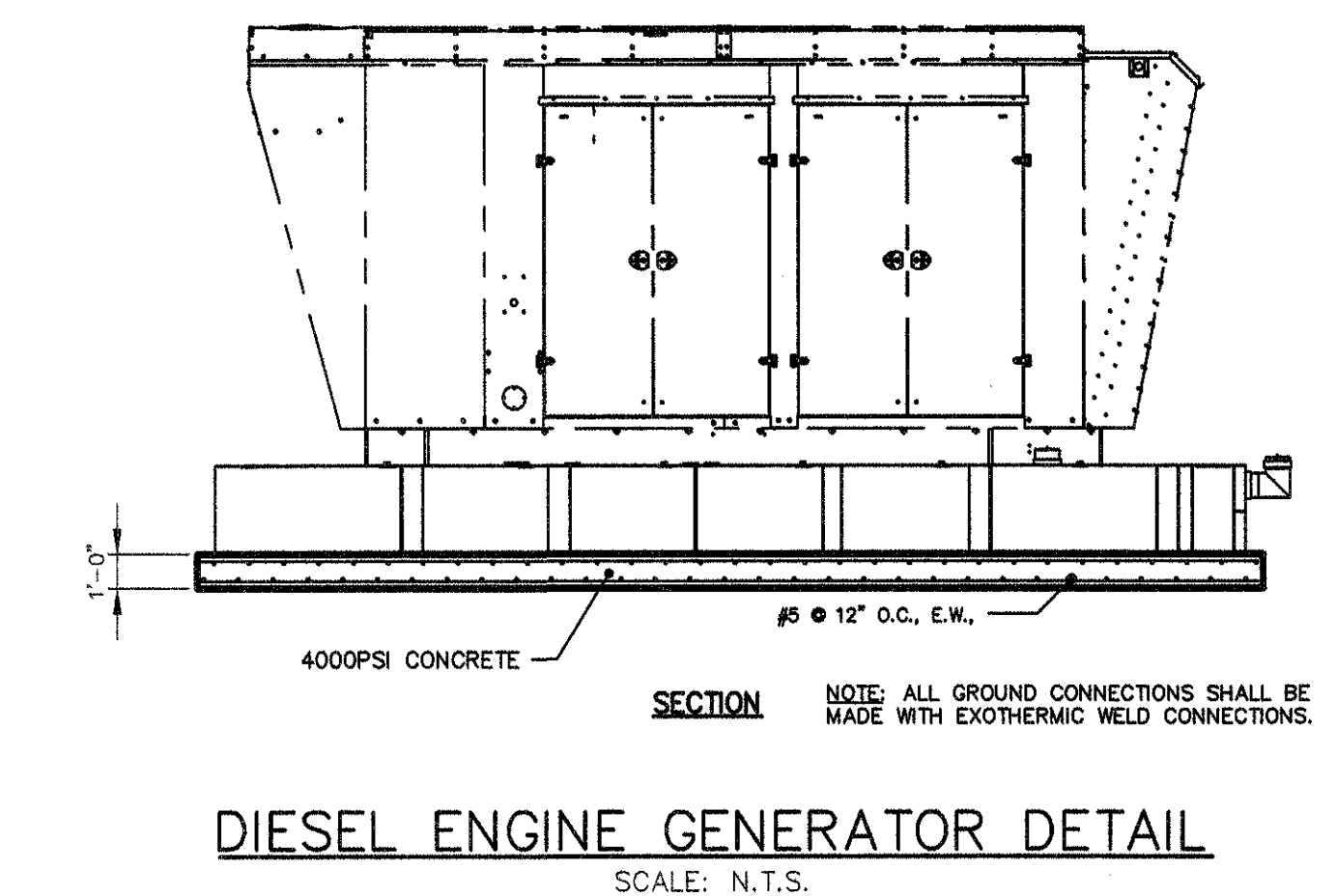
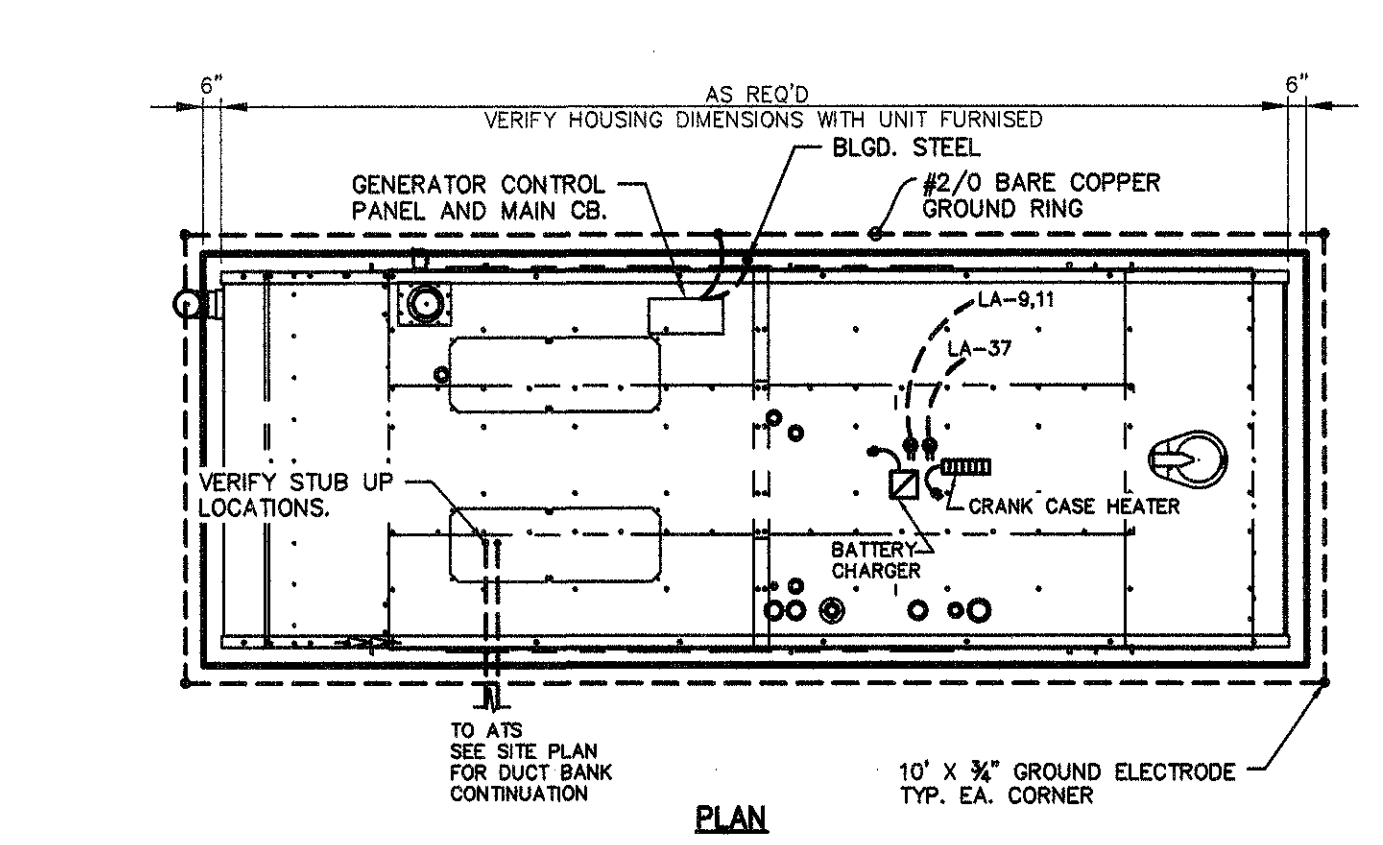
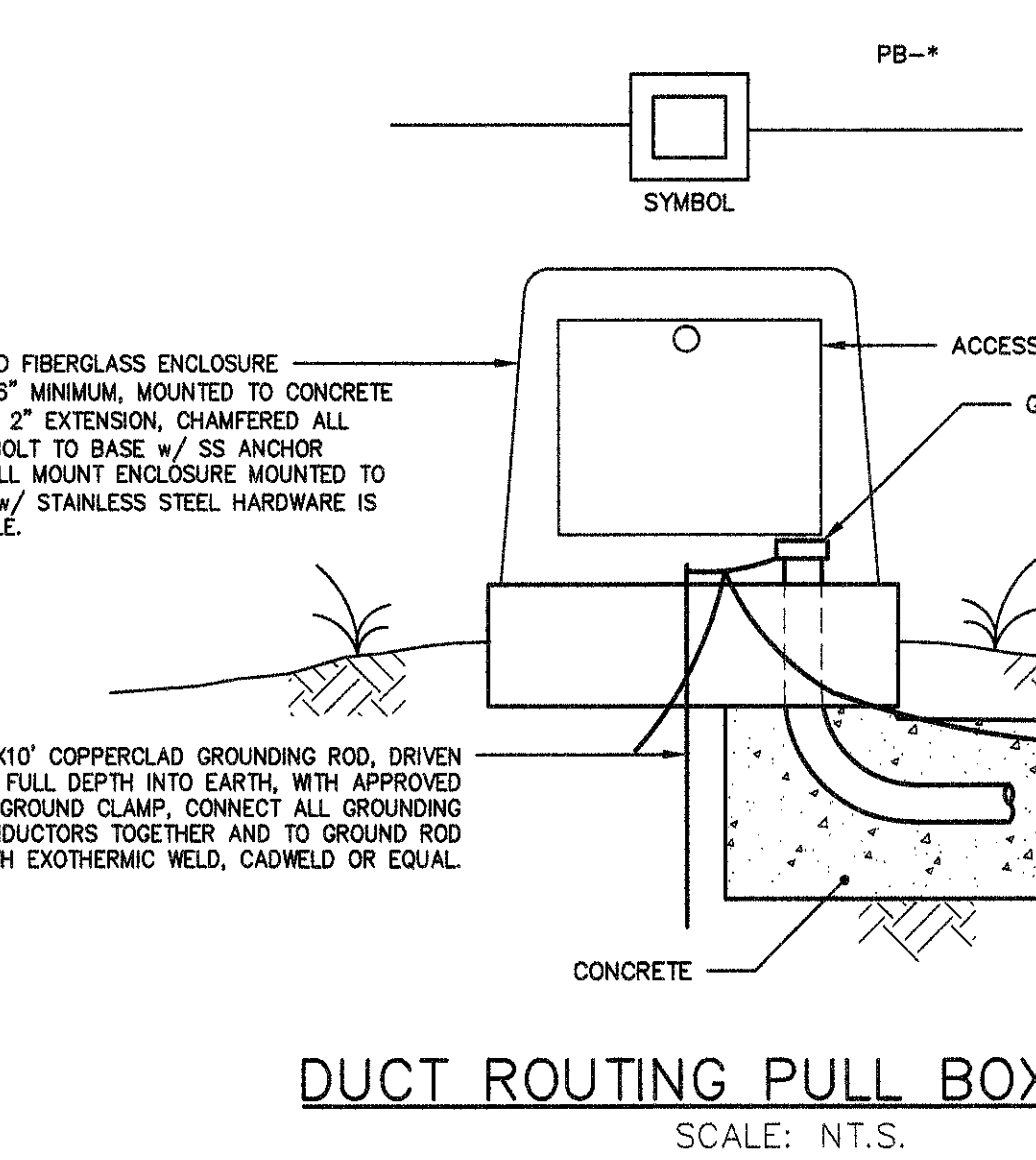
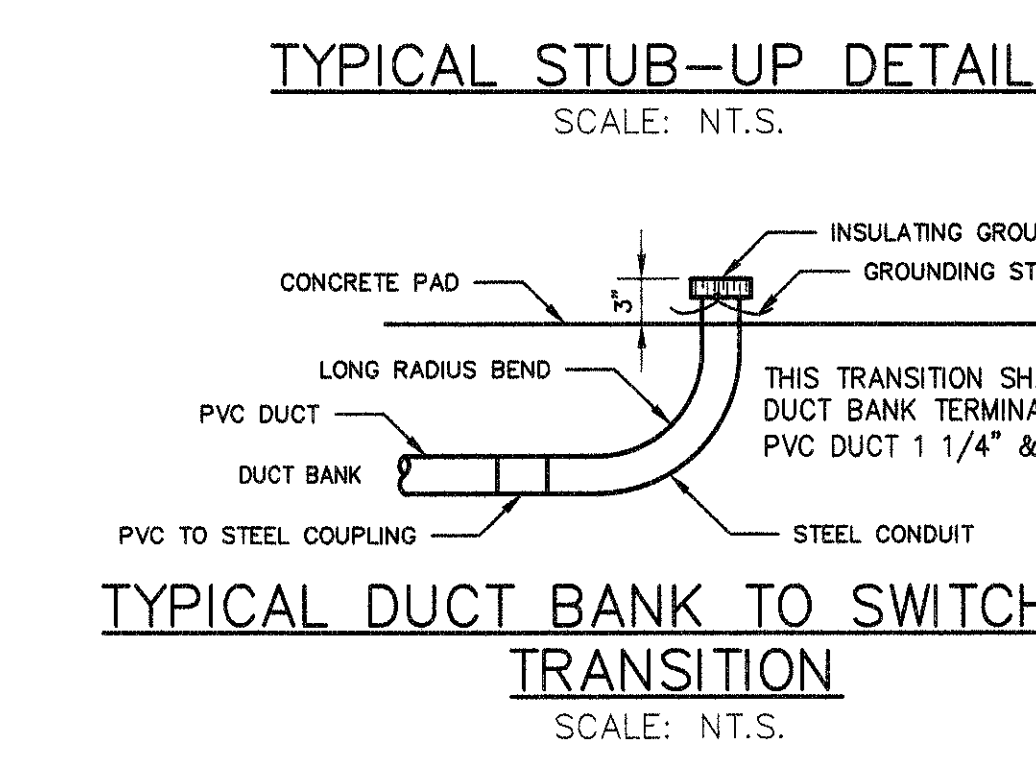
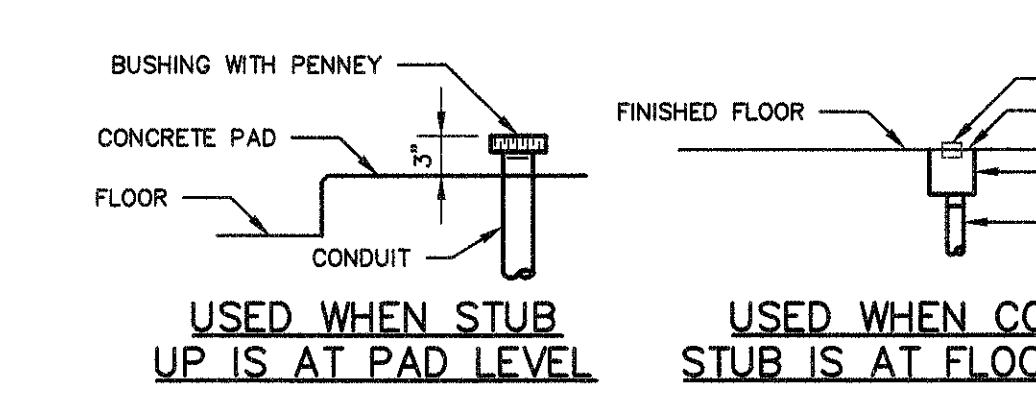
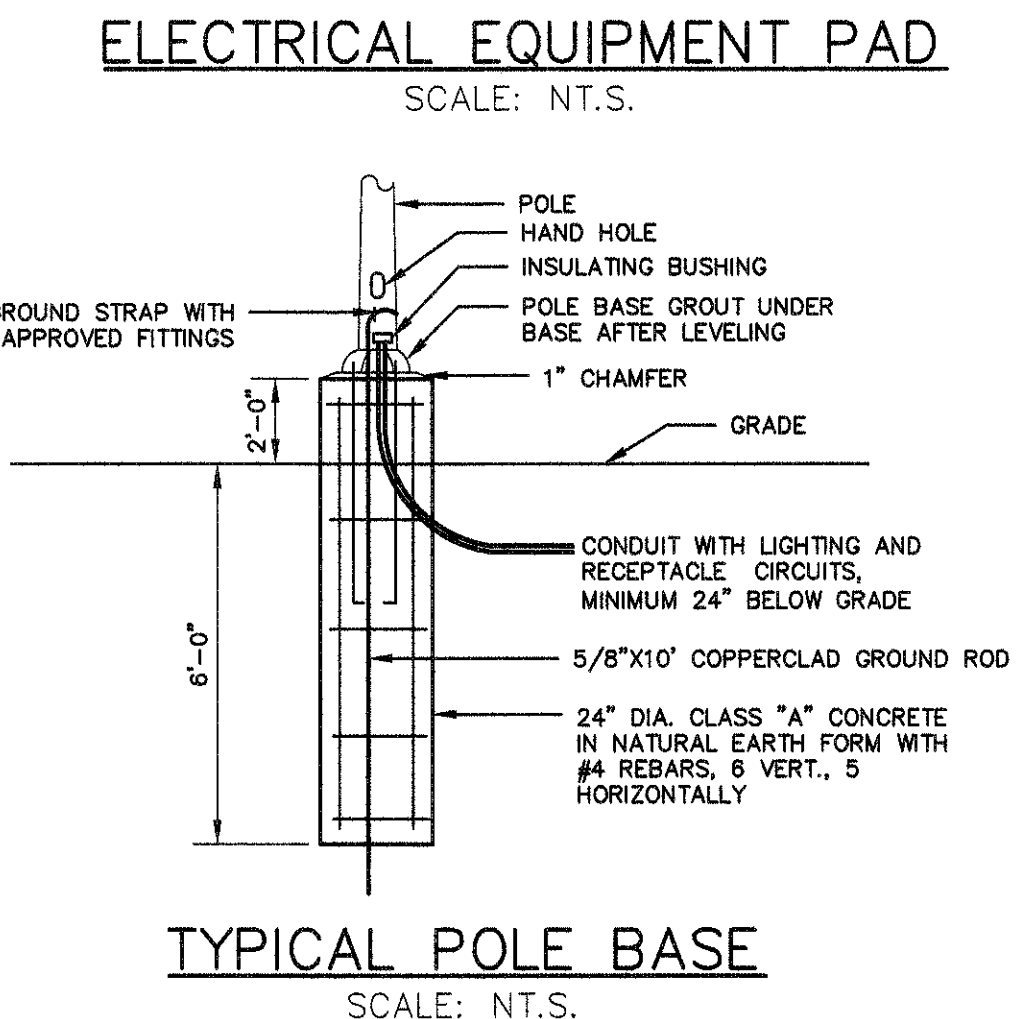
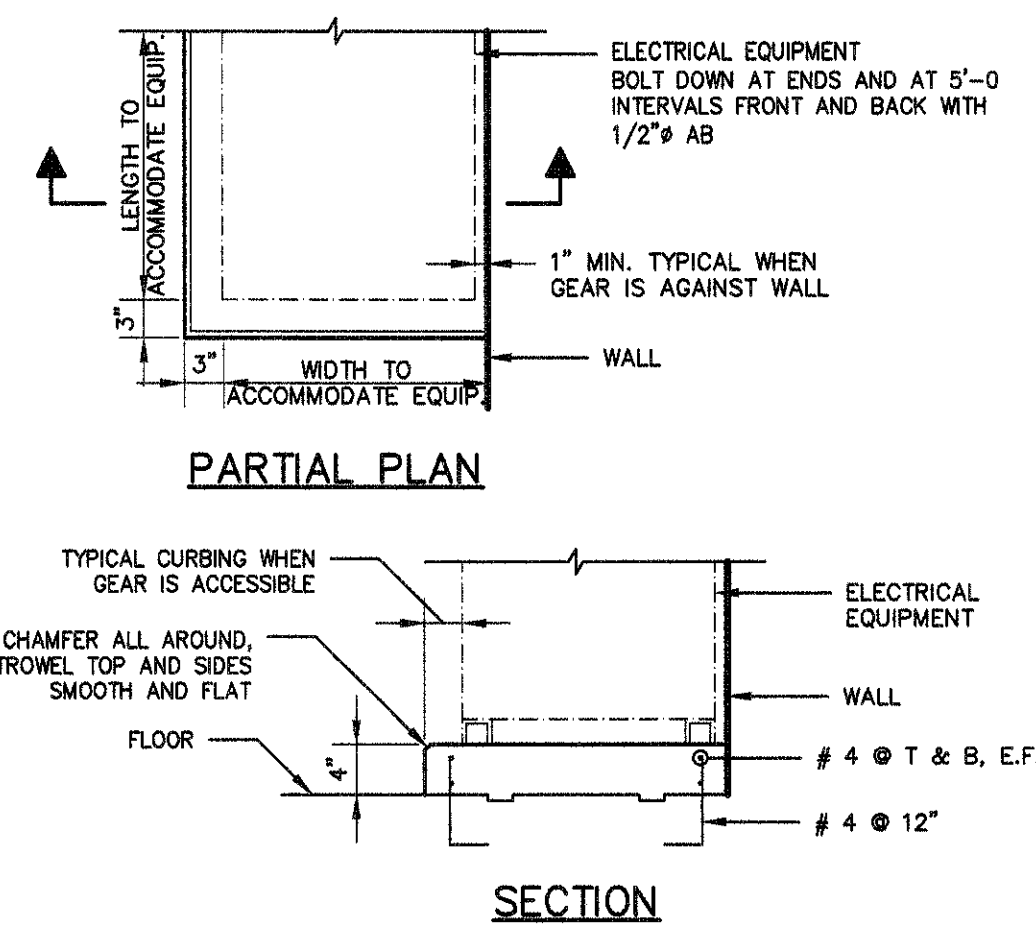
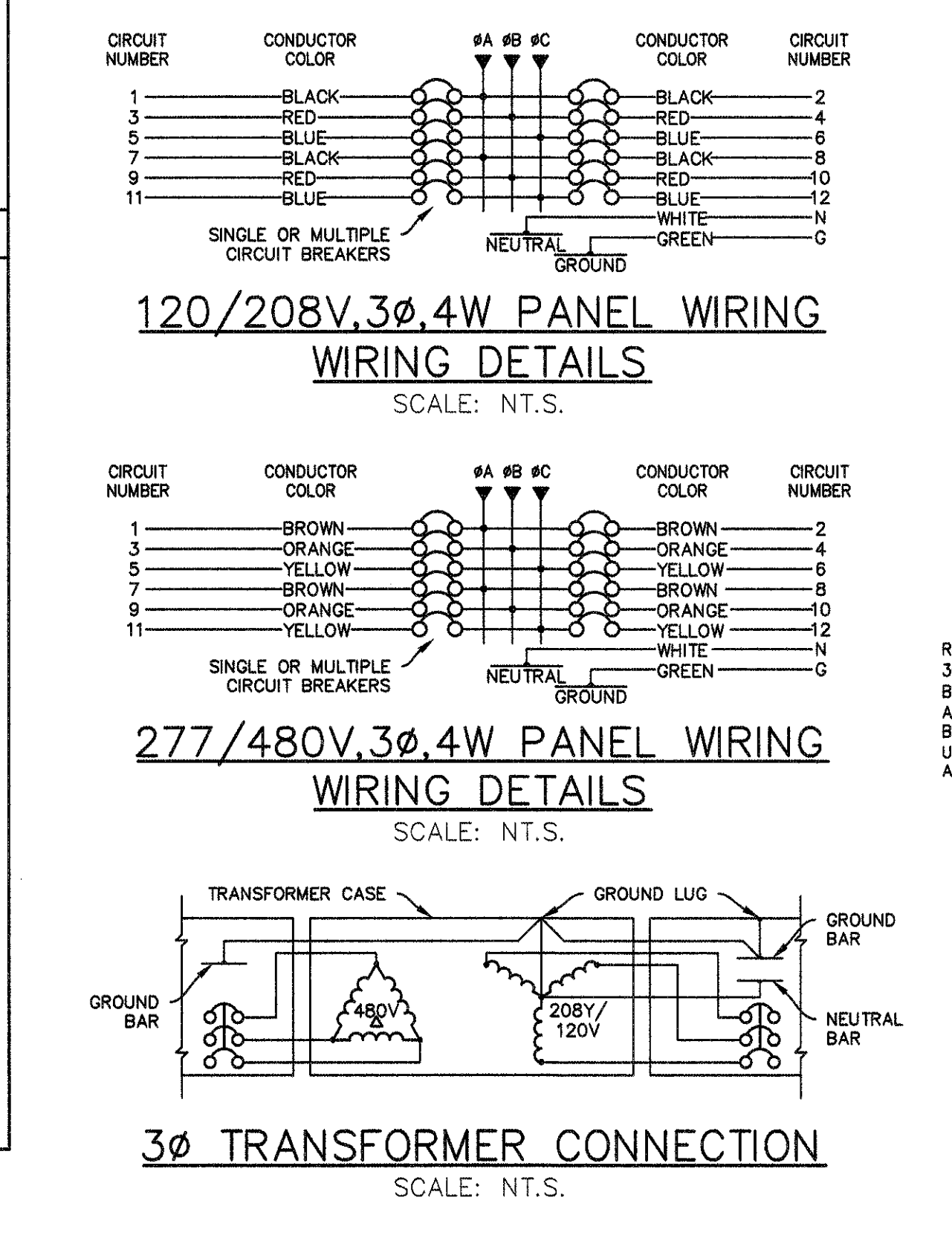
ONE-LINE DIAGRAMS	
	LOW VOLTAGE POWER CIRCUIT BREAKER, DRAW OUT TYPE UPPER NUMBER INDICATES FRAME SIZE LOWER NUMBER INDICATES TRIP SETTING
	MEDIUM VOLTAGE POWER CIRCUIT BREAKER, DRAW OUT TYPE
	TRANSFER SWITCH (C= COMMON, N = NORMAL, E = EMERGENCY)
	CURRENT TRANSFORMER, AMMETER
	POTENTIAL TRANSFORMER, VOLTMETER
	GENSET
	MOLDED CASE CIRCUIT BREAKER, THERMAL MAGNETIC UPPER NUMBER INDICATES TRIP SETTING LOWER NUMBER INDICATES NUMBER OF POLES
	DISCONNECT SWITCH
	FUSE
	MOTOR CIRCUIT PROTECTOR
	MOTOR OVERLOADS, SOLID STATE U.N.O.
	NEMA RATED FULL VOLTAGE NON-REVERSING MAGNETIC STARTER-CONTACTOR, SIZE AS INDICATED
	VARIABLE FREQUENCY DRIVE
	REDUCED VOLTAGE SOLID STATE STARTER

ELECTRICAL SYMBOLS (CONT.)

(ALL OR SOME OF THESE SYMBOLS MAY BE USED ON THESE DRAWINGS)

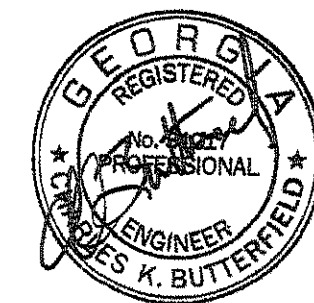
CONTROL SCHEMATICS	
	RELAY CONTACT NORMALLY OPEN OR NORMALLY CLOSED CONTACT.
	RELAY COIL
	TIMER COIL
	INDICATOR LIGHT, COLOR NOTED, R-RED, G-GREEN, W-WHITE, A-AMBER.
	TIMER CONTACT, NORMALLY CLOSED-TIMED OPEN (TO), NORMALLY OPEN-TIMED CLOSED (TC), NORMALLY CLOSED-INSTANT OPEN-TIMED CLOSED AFTER.
	LIMIT SWITCH [LS]
	HAND-OFF-AUTOMATIC SELECTOR SWITCH [HOA]
	OFF-ON SELECTOR SWITCH [O O]
	SAFE-RUN SELECTOR SWITCH IN NEMA 4X ENCLOSURE.
	START-STOP PUSH BUTTON, PANEL MOUNTED OR IN NEMA 4X ENCLOSURE [SSPB]
	TRANSFORMER

ABBREVIATIONS	
AC	AIR CONDITIONER
AIC	AMPS INTERRUPTING CAPACITY
C	CONDUIT
CB	CIRCUIT BREAKER
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
ETM	ELAPSED TIME METER
EX	EXISTING
FVNR	FULL VOLTAGE NON-REVERSING
GFI(R)	GROUND FAULT INTERRUPTER (RECEPTACLE)
H-O-A	HAND-OFF-AUTOMATIC
KVA	KILOVOLT AMPERES
LTG	LIGHTING
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
OH	OVERHEAD
PB	PUSH BUTTON
PF	POWER FACTOR
PFR	PHASE FAILURE/ PHASE REVERSAL RELAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
RGS	RIGID GALVANIZED STEEL
RVSS	REDUCED VOLTAGE SOFT STARTER
SS	STAINLESS STEEL
SW	SWITCH
TBA(D)	TO BE ABANDONED OR DEMOLISHED (SEE NOTES)
TDR	ADJUSTABLE TIME DELAY RELAY
TM	THERMAL MAGNETIC CIRCUIT BREAKER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UG	UNDERGROUND
WP	WEATHER PROOF
XFMR	TRANSFORMER

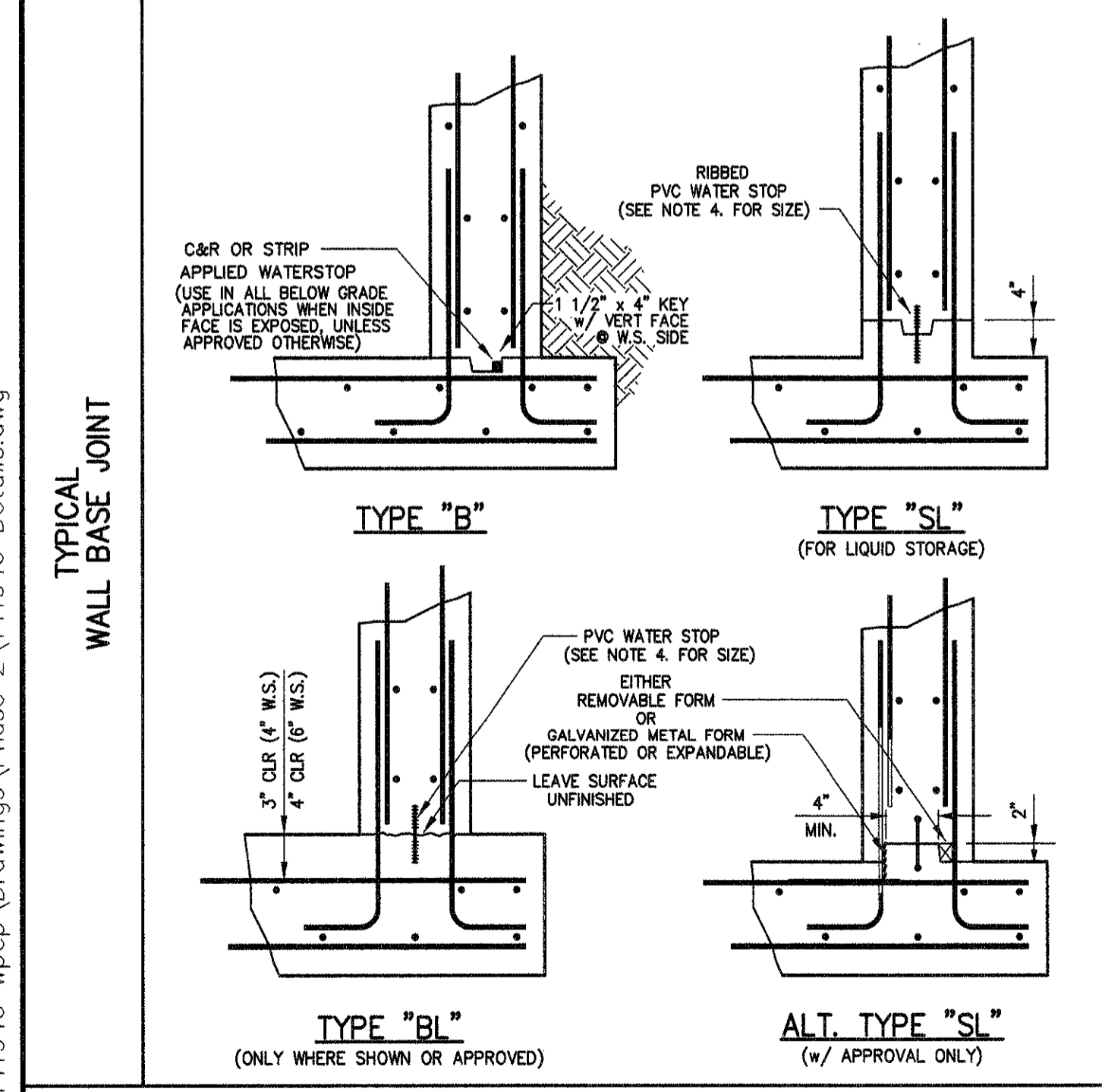
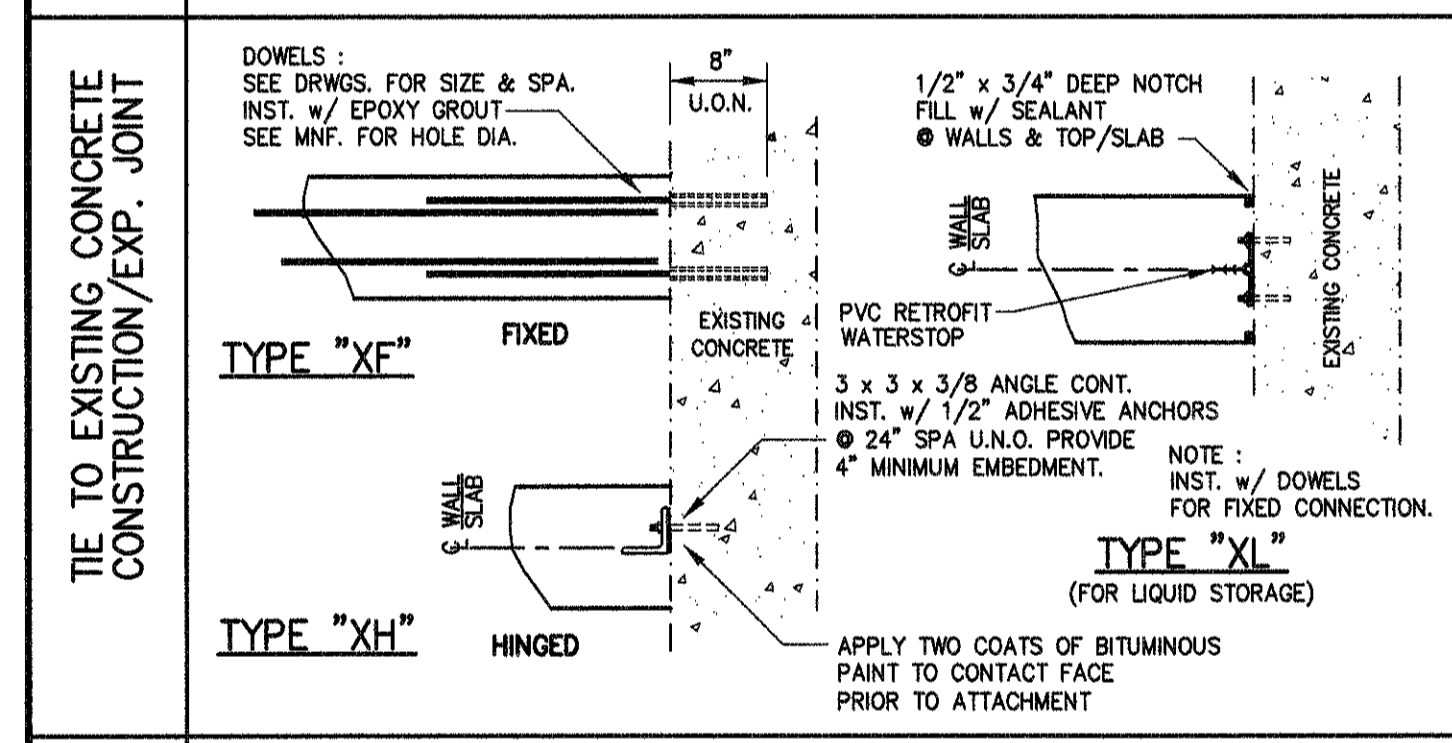
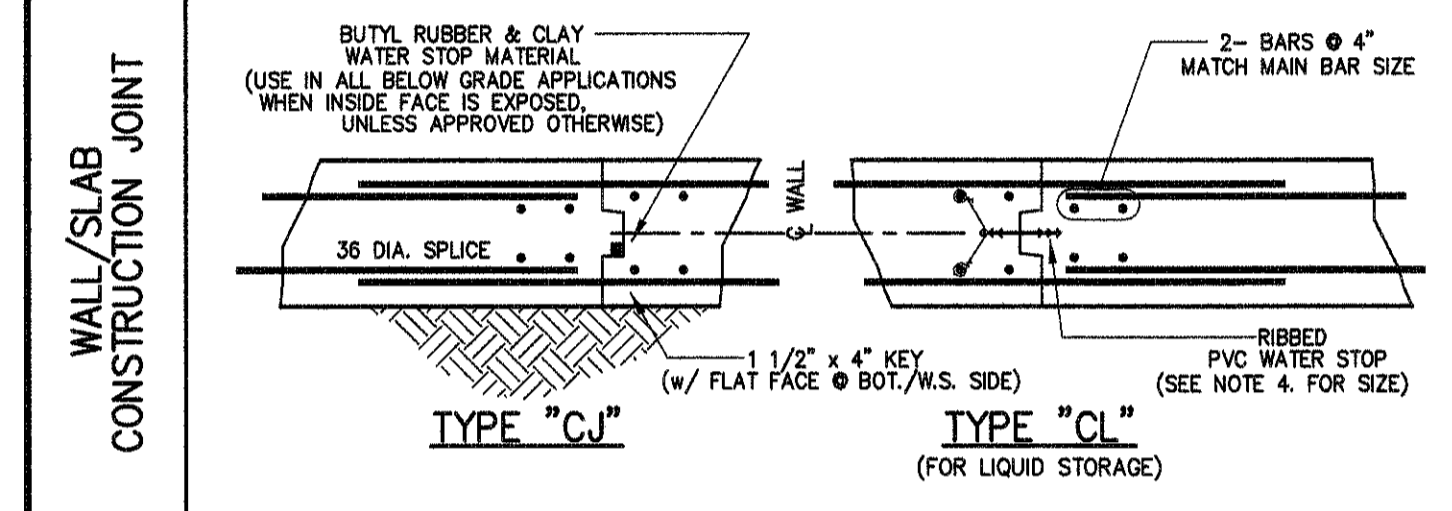
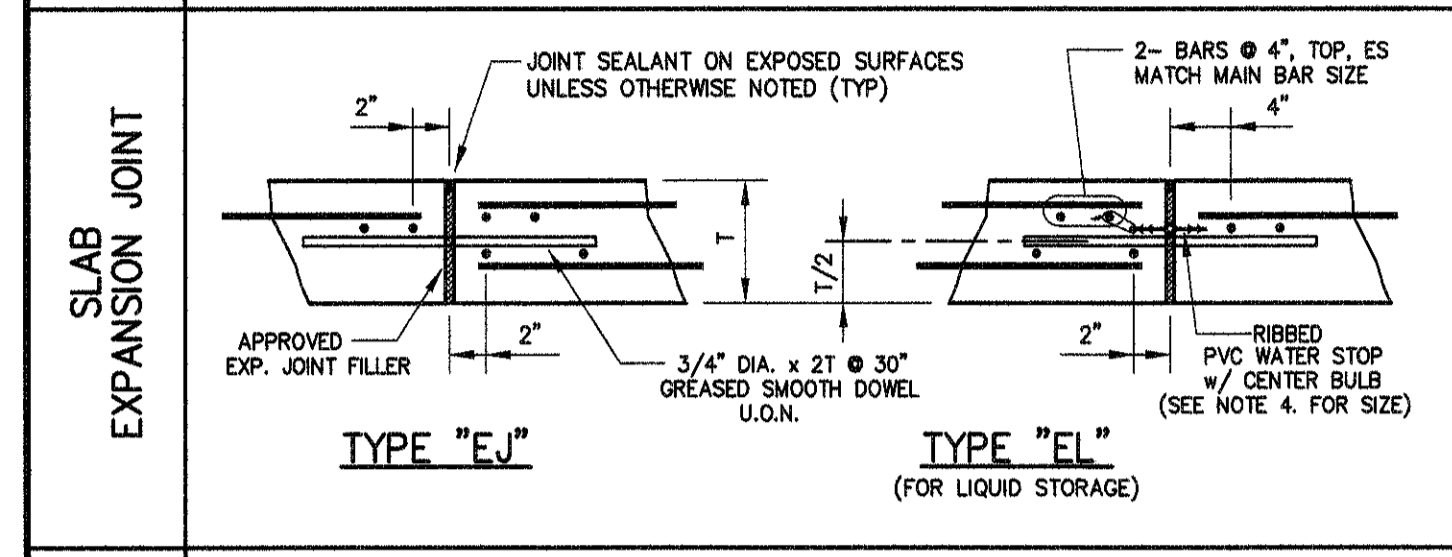
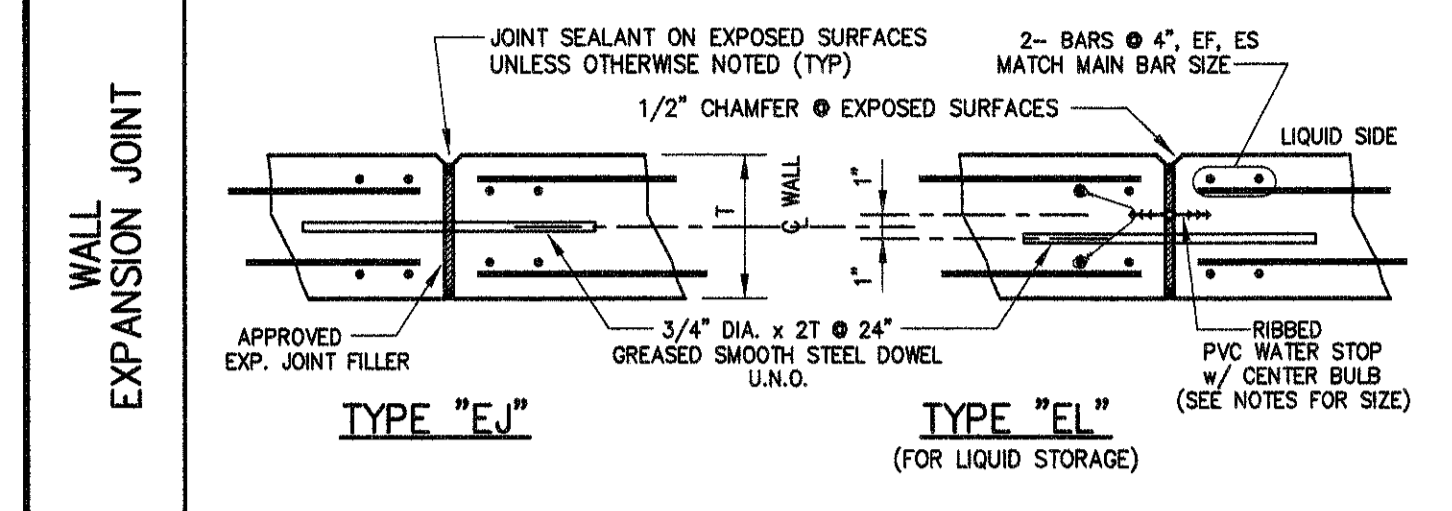


REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		ELECTRICAL SYMBOLS & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB		
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 65 OF 77	

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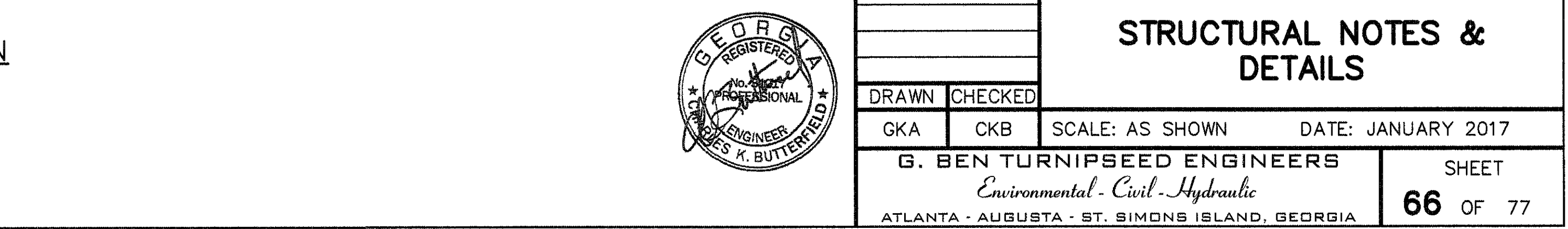
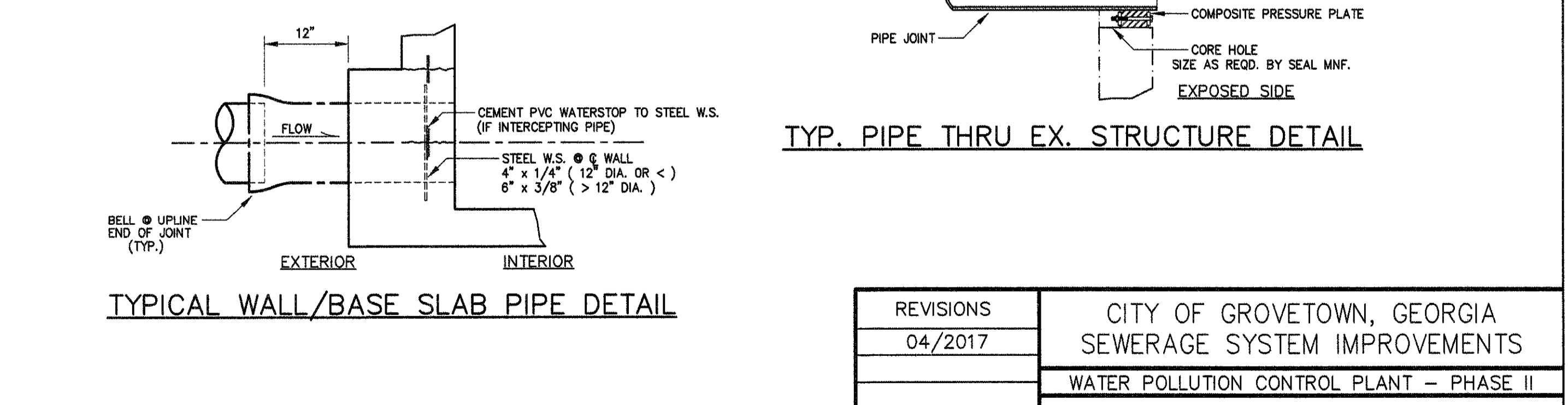
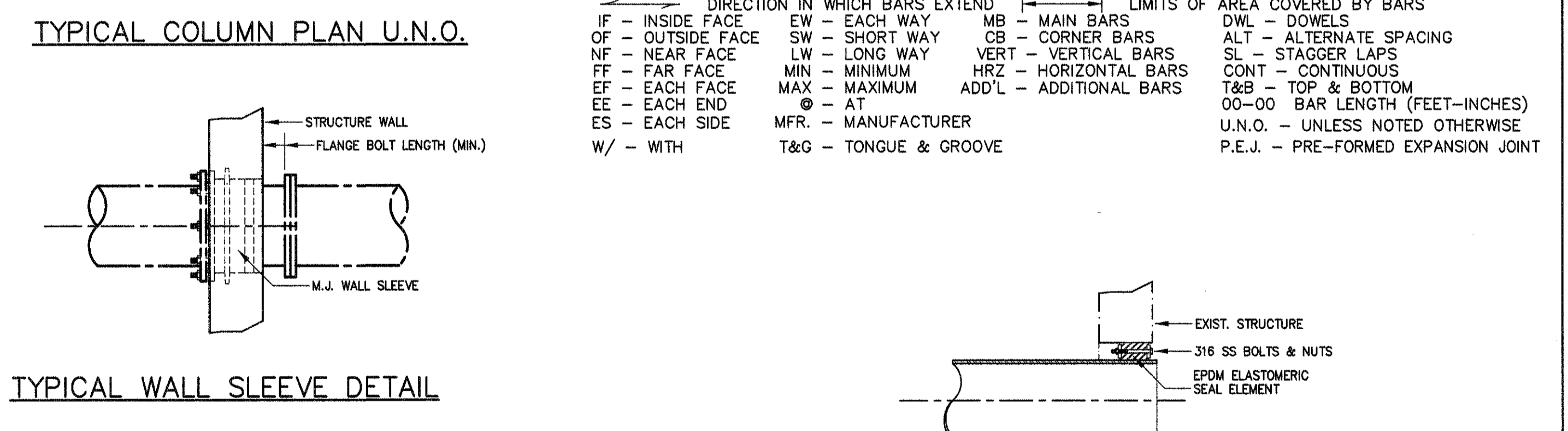
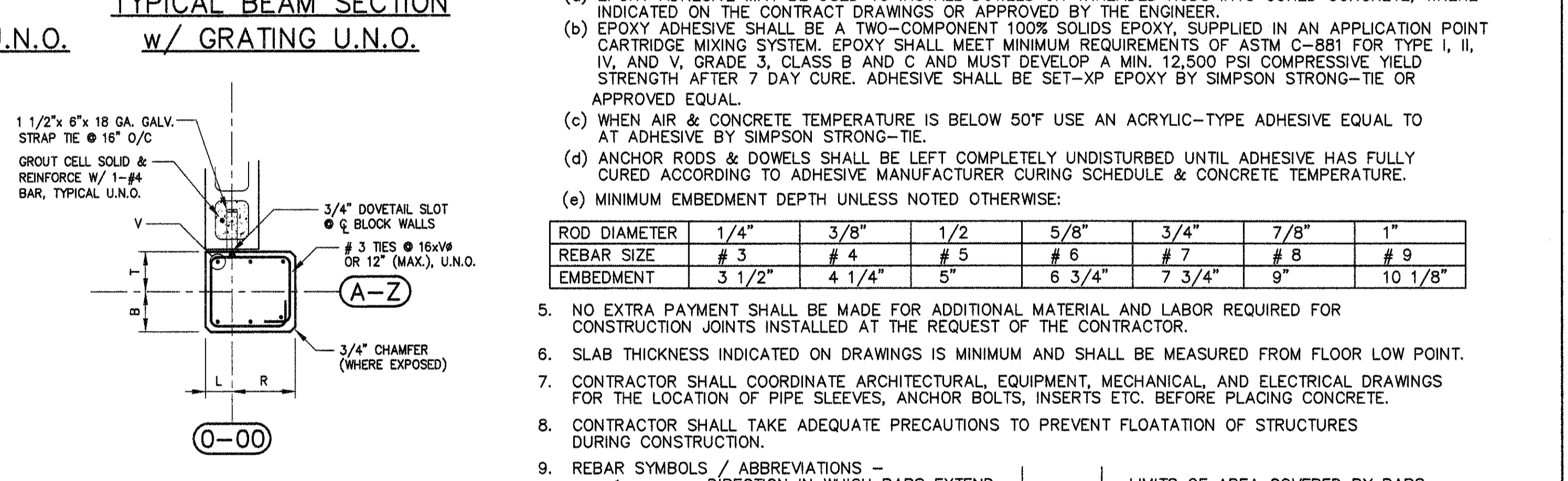
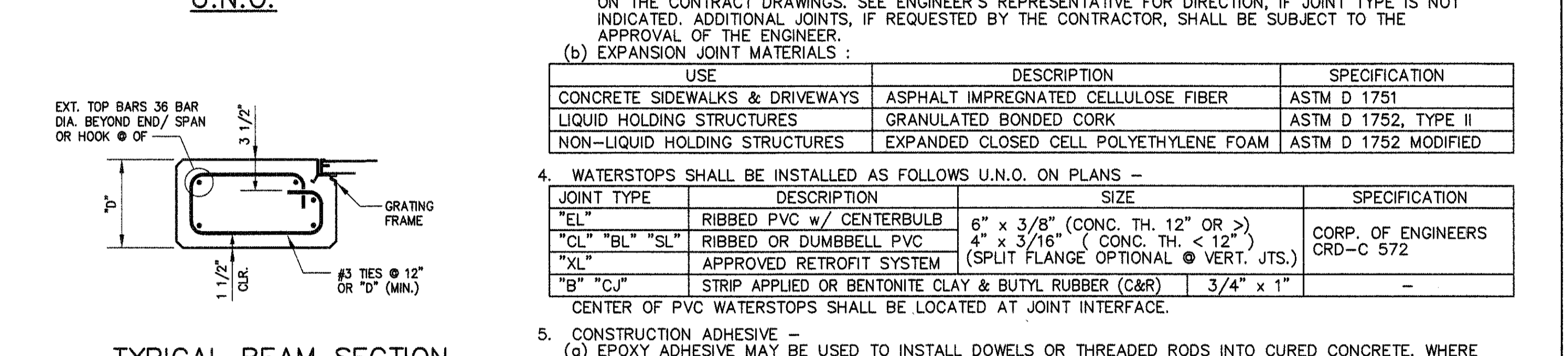
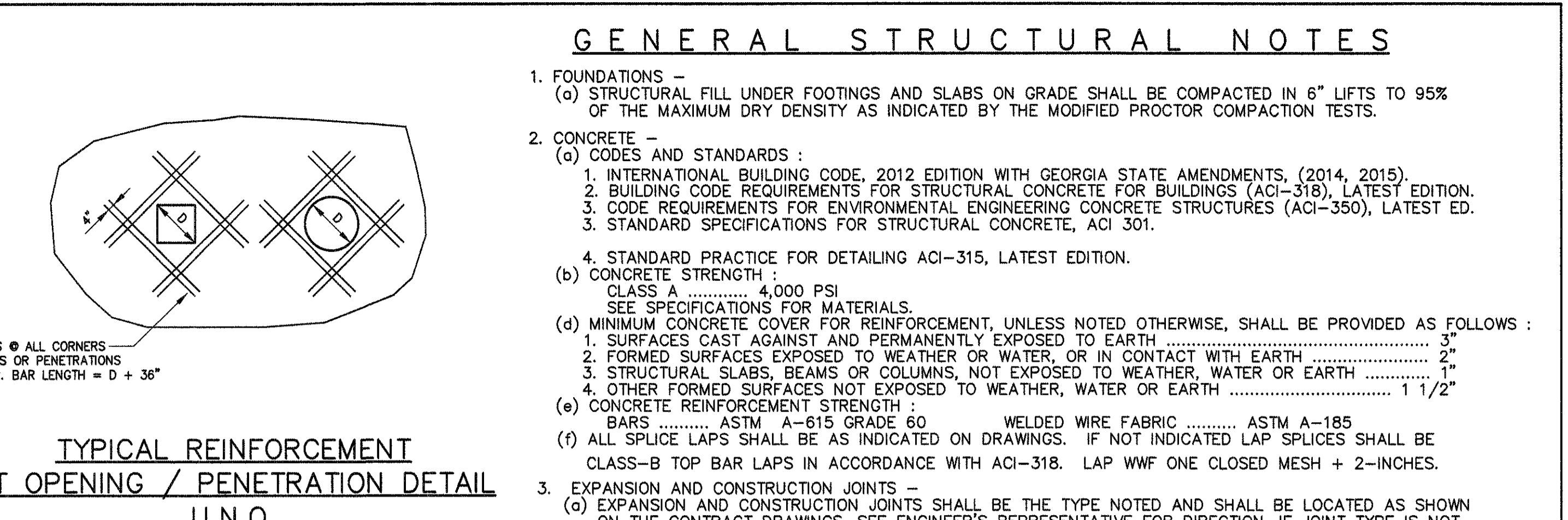
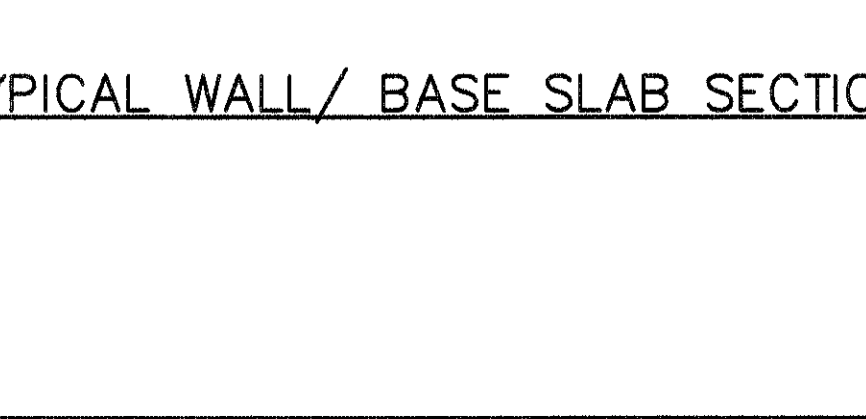
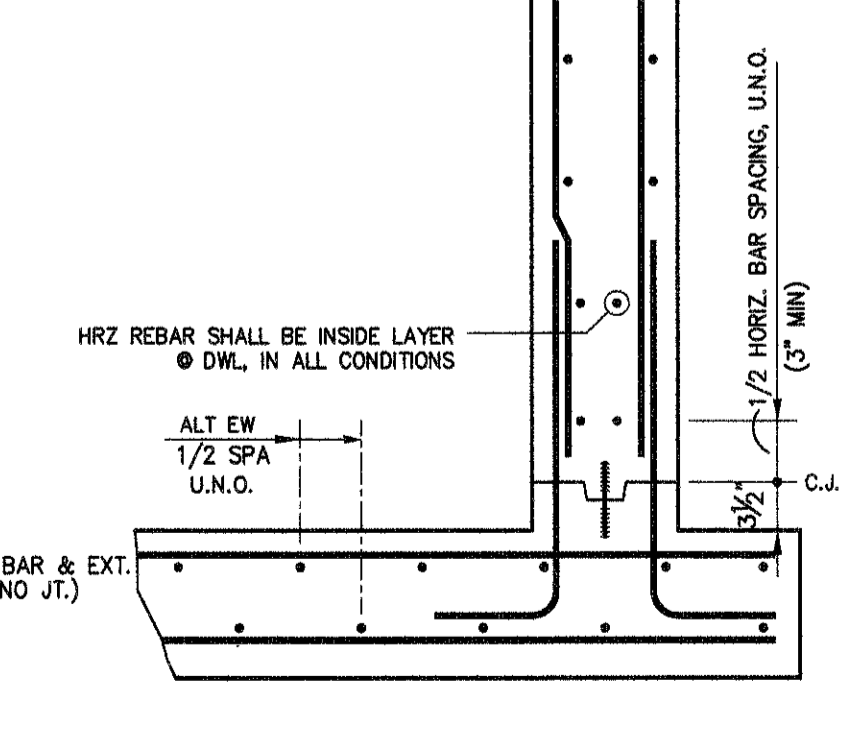
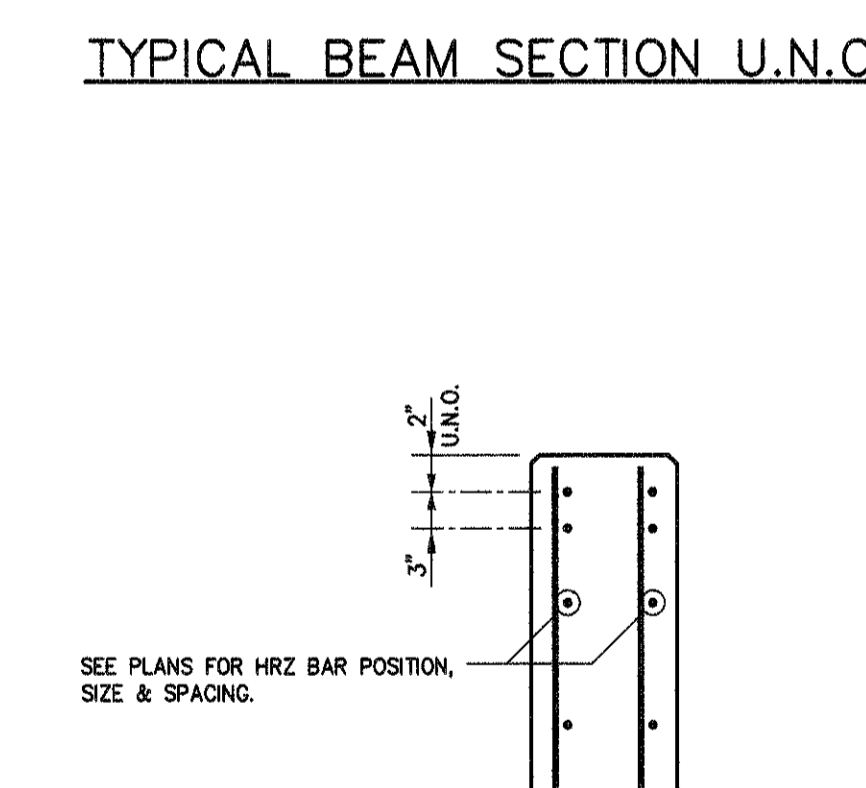
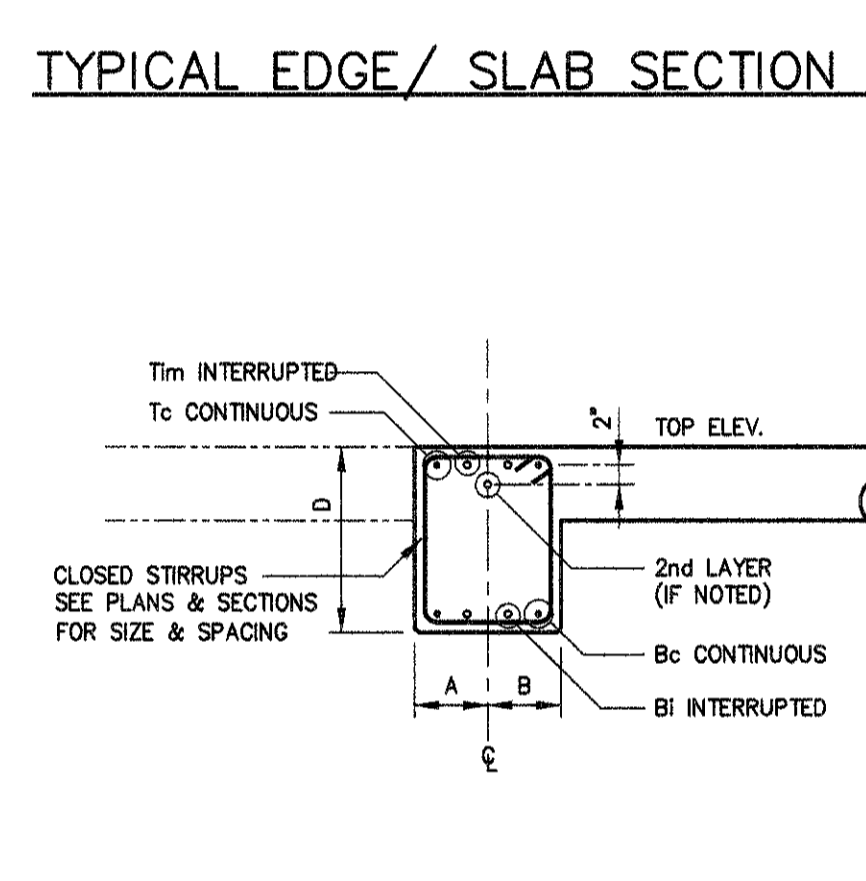
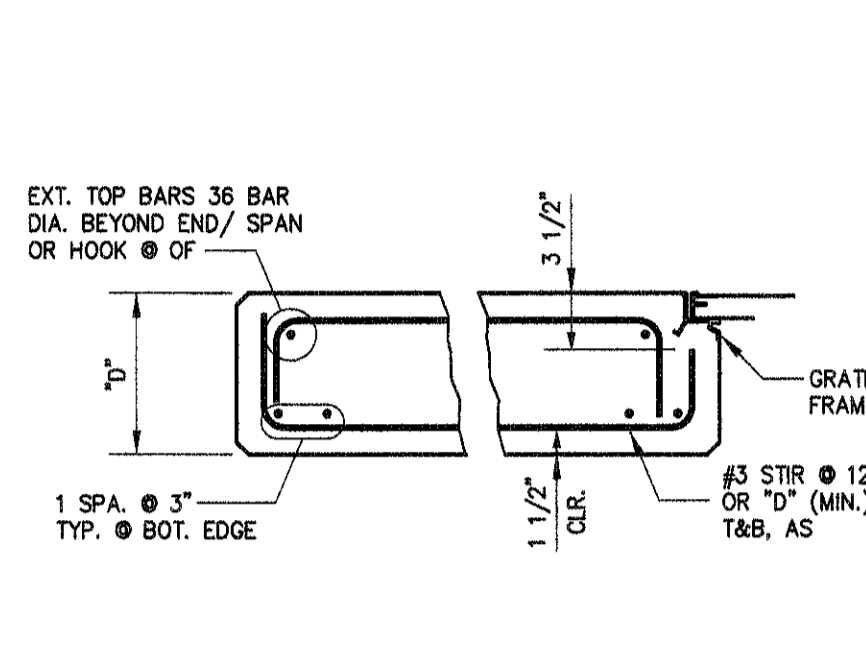
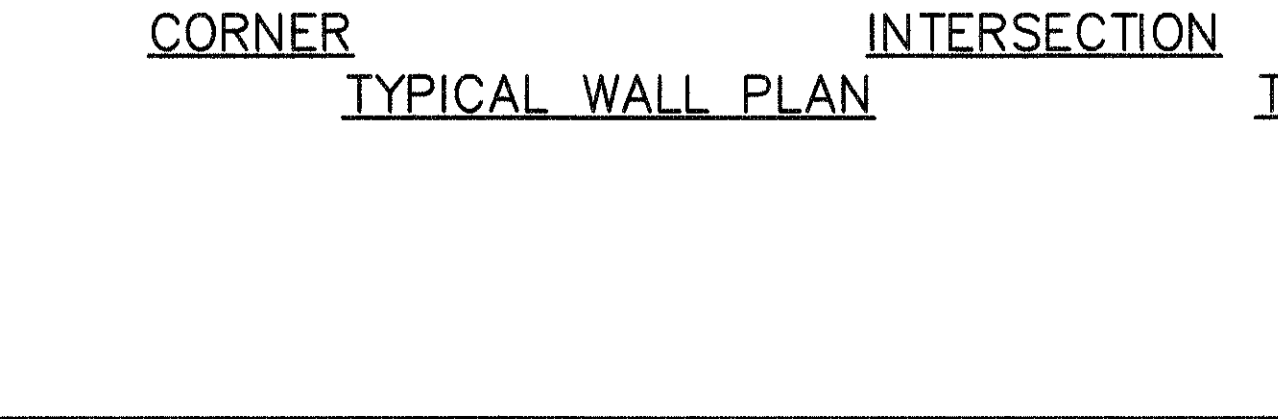
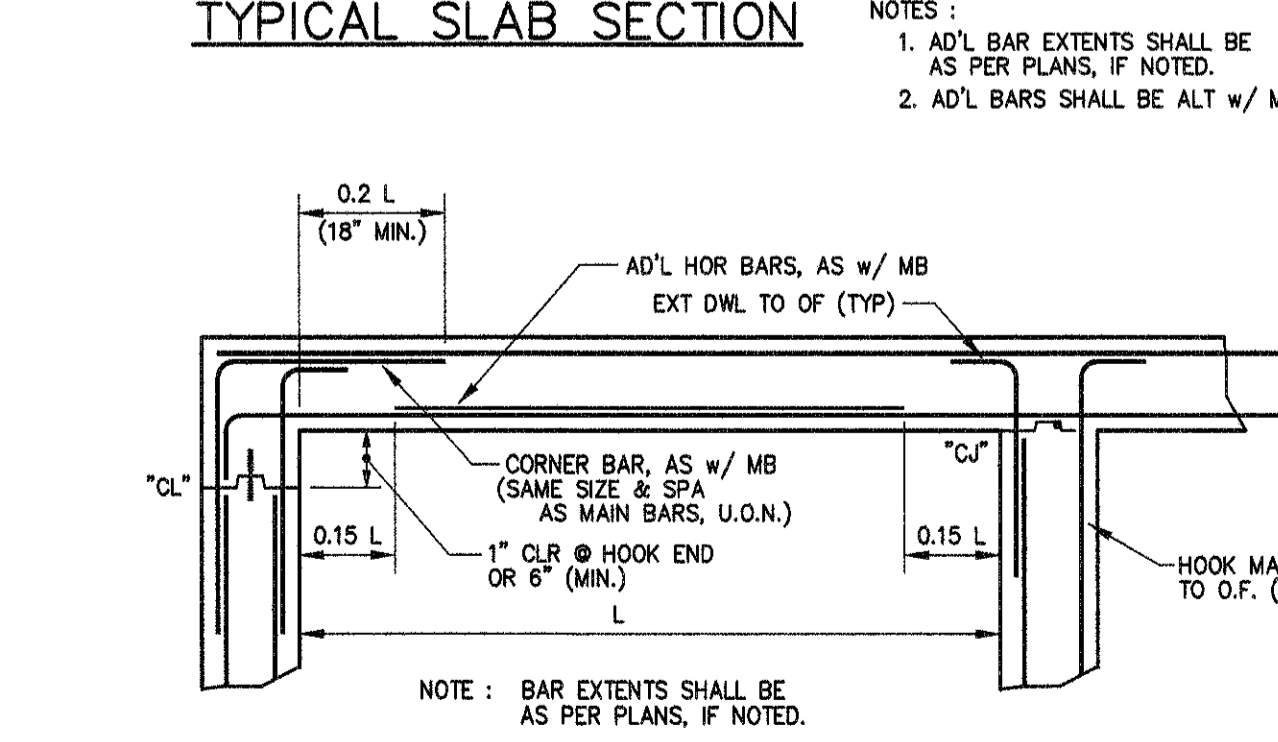
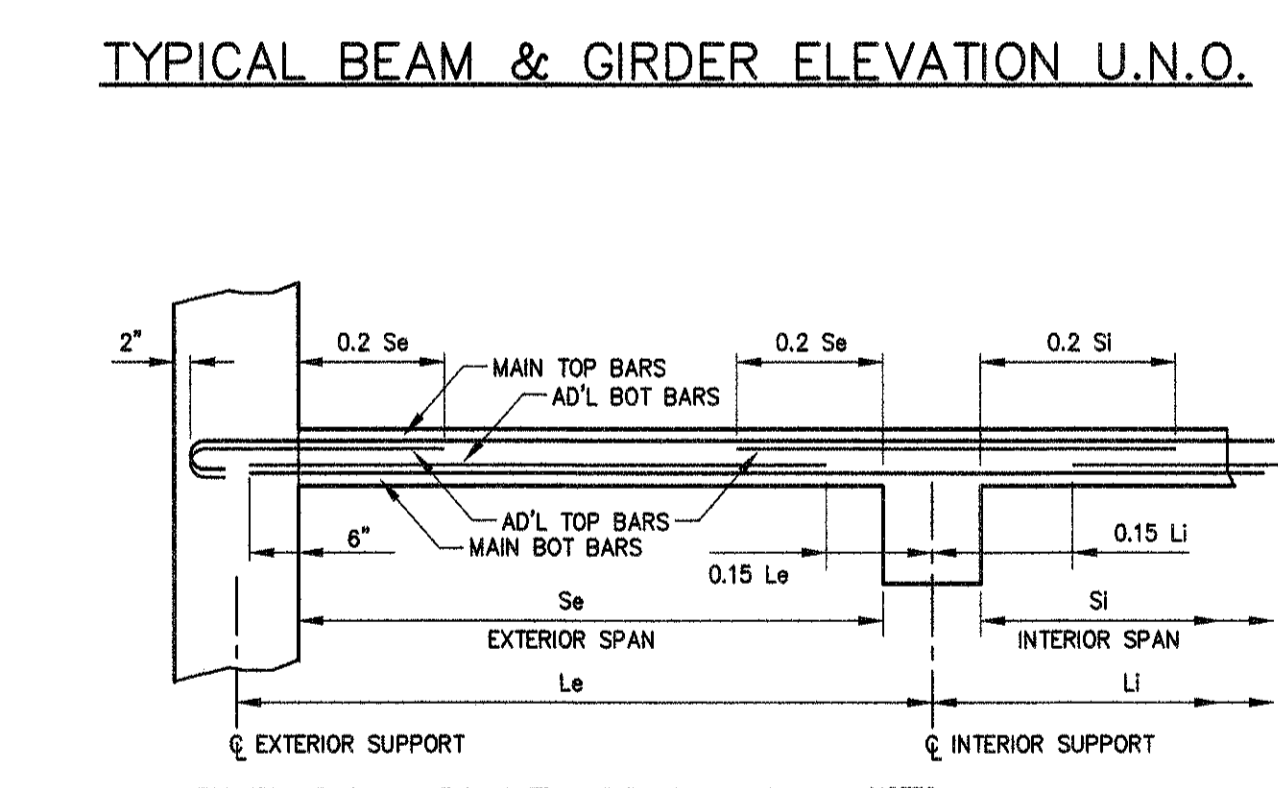
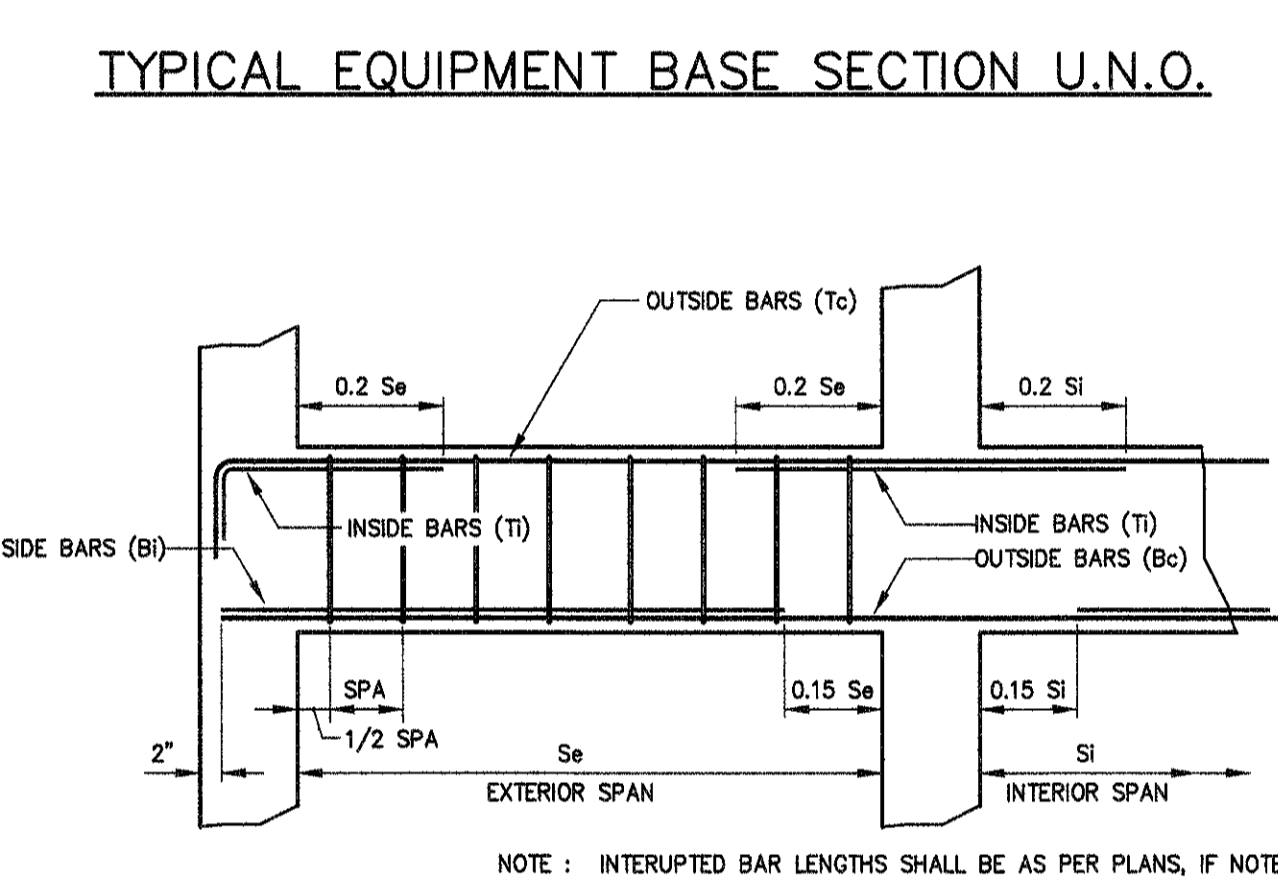
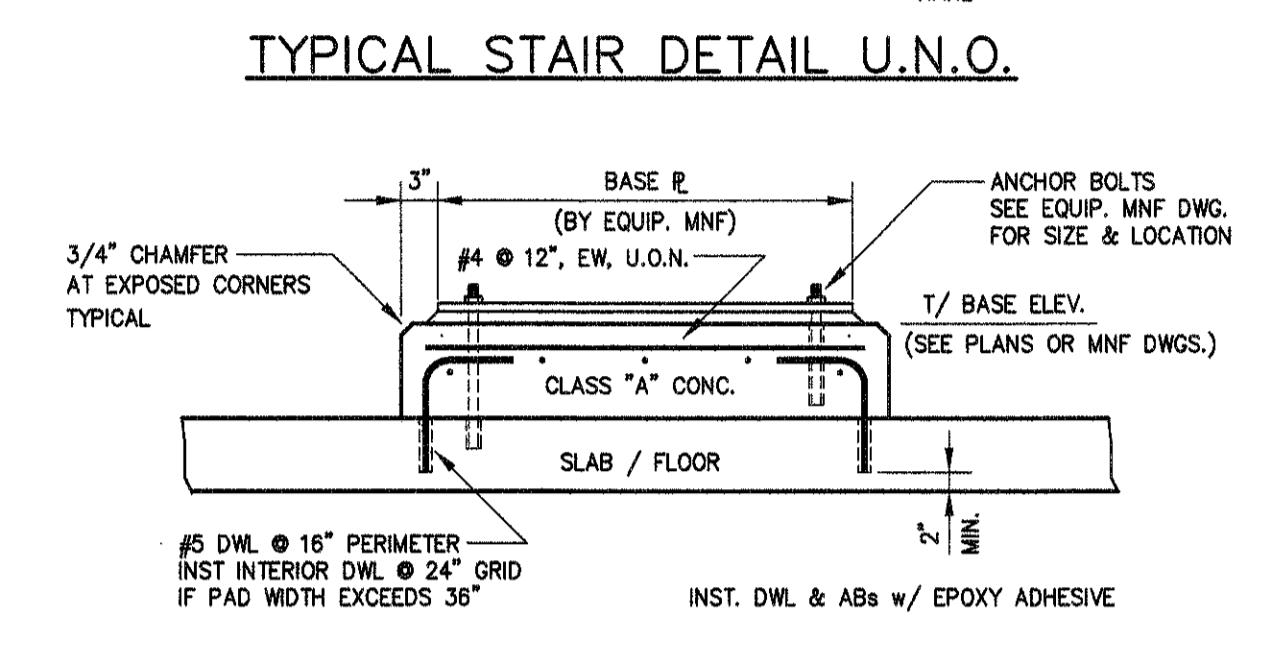
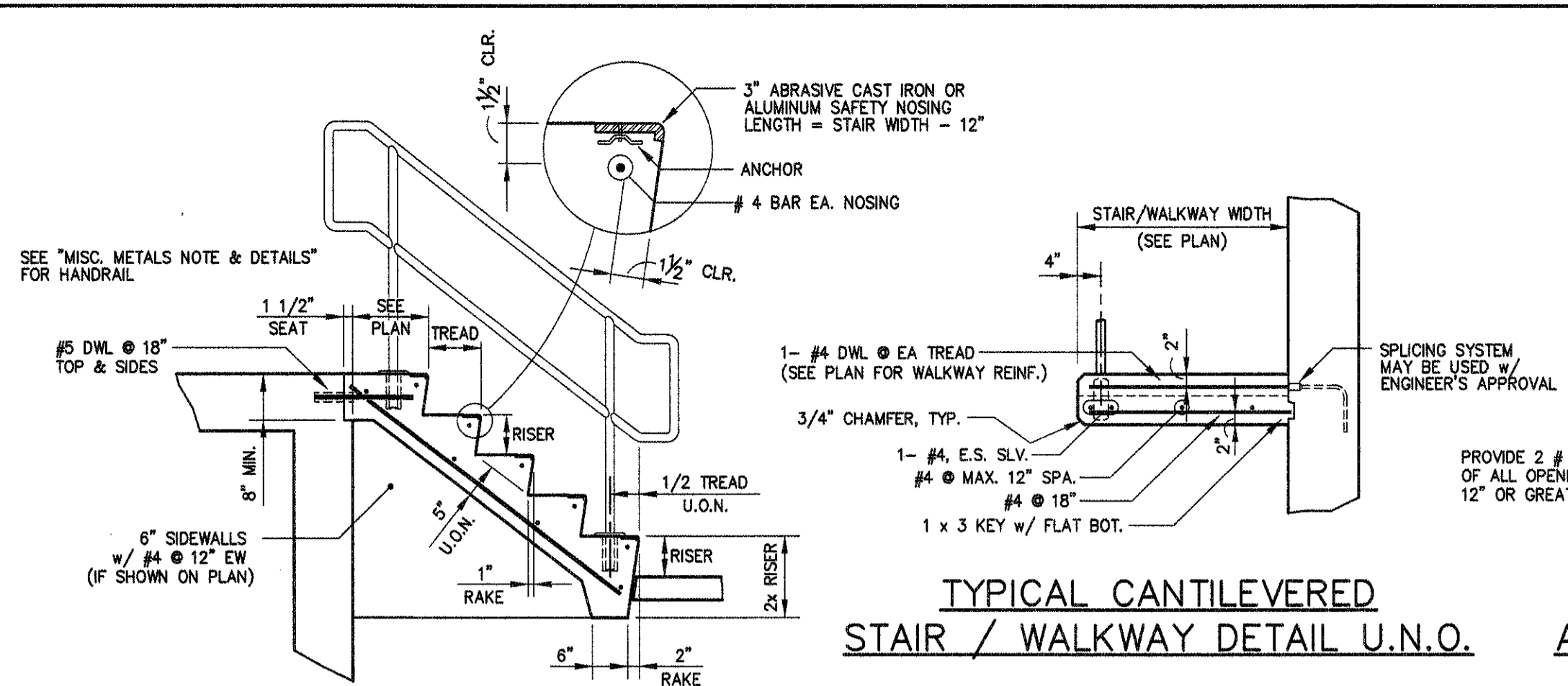


MAXIMUM EXPANSION JOINT SPACING	TEMPERATURE RANGE	JOINT WIDTH			
		3/8"	1/2"	3/4"	1"
UNDERGROUND 40' F	70'	95'	-	-	-
PARTLY PROTECTED ABOVE GROUND 80' F	35'	50'	70'	95'	-
UNPROTECTED EXPOSED ROOF SLAB 120' F	25'	32'	50'	65'	-



TYPICAL JOINT DETAILS

NOTE: IF ITEMS ARE SHOWN, BUT NOT NOTED, ITEMS SHALL BE AS NOTED IN ADJACENT DETAIL.



GENERAL STRUCTURAL NOTES

- FOUNDATIONS -
 - STRUCTURAL FILL UNDER FOOTINGS AND SLABS ON GRADE SHALL BE COMPACTED IN 6" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS INDICATED BY THE MODIFIED PROCTOR COMPACTION TESTS.
- CONCRETE -
 - CODES AND STANDARDS:
 - INTERNATIONAL BUILDING CODE, 2012 EDITION WITH GEORGIA STATE AMENDMENTS, (2014, 2015).
 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI-318), LATEST EDITION.
 - CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI-350), LATEST ED.
 - STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE, ACI 301.
 - STANDARD PRACTICE FOR DETAILING ACI-315, LATEST EDITION.

USE	DESCRIPTION	SPECIFICATION
CONCRETE SIDEWALKS & DRIVEWAYS	ASPHALT IMPREGNATED CELLULOSE FIBER	ASTM D 1751
LIQUID HOLDING STRUCTURES	GRANULATED BONDED CORK	ASTM D 1752, TYPE II
NON-LIQUID HOLDING STRUCTURES	EXPANDED CLOSED CELL POLYETHYLENE FOAM	ASTM D 1752 MODIFIED

JOINT TYPE	DESCRIPTION	SIZE	SPECIFICATION
"EL"	RIBBED PVC w/ CENTERBULB	6" x 3/8" (CONC. TH. 12" OR >)	-
"CL" "BL" "SL"	RIBBED OR DUMBBELL PVC	4" x 3/16" (CONC. TH. < 12")	CORP. OF ENGINEERS CRD-C 572
"XL"	APPROVED RETROFIT SYSTEM	(SPLIT FLANGE OPTIONAL @ VERT. JTS.)	-
"B" "CJ"	STRIP APPLIED OR BENTONITE CLAY & BUTYL RUBBER (C&R)	3/4" x 1"	-

- WATERSTOPS SHALL BE INSTALLED AS FOLLOWS U.N.O. ON PLANS -
 - CONSTRUCTION ADHESIVE -
 - EPOXY ADHESIVE MAY BE USED TO INSTALL DOWELS OR THREADED RODS INTO CURED CONCRETE, WHERE INDICATED ON THE CONTRACT DRAWINGS OR APPROVED BY THE ENGINEER.
 - EPOXY ADHESIVE SHALL BE A TWO-COMPONENT 100% SOLIDS EPOXY, SUPPLIED IN AN APPLICATION POINT CARTRIDGE MIXING SYSTEM. EPOXY SHALL MEET MINIMUM REQUIREMENTS OF ASTM C-881 FOR TYPE I, II, IV, AND V, GRADE 3, CLASS B AND C AND MUST DEVELOP A MIN. 12,500 PSI COMPRESSIVE YIELD STRENGTH AFTER 7 DAY CURE. ADHESIVE SHALL BE SET-XP EPOXY BY SIMPSON STRONG-TIE OR APPROVED EQUAL.
 - WHEN AIR & CONCRETE TEMPERATURE IS BELOW 50°F USE AN ACRYLIC-TYPE ADHESIVE EQUAL TO AT ADHESIVE BY SIMPSON STRONG-TIE.
 - ANCHOR RODS & DOWELS SHALL BE LEFT COMPLETELY UNDISTURBED UNTIL ADHESIVE HAS FULLY CURED ACCORDING TO ADHESIVE MANUFACTURER CURING SCHEDULE & CONCRETE TEMPERATURE.
 - MINIMUM EMBEDMENT DEPTH UNLESS NOTED OTHERWISE:

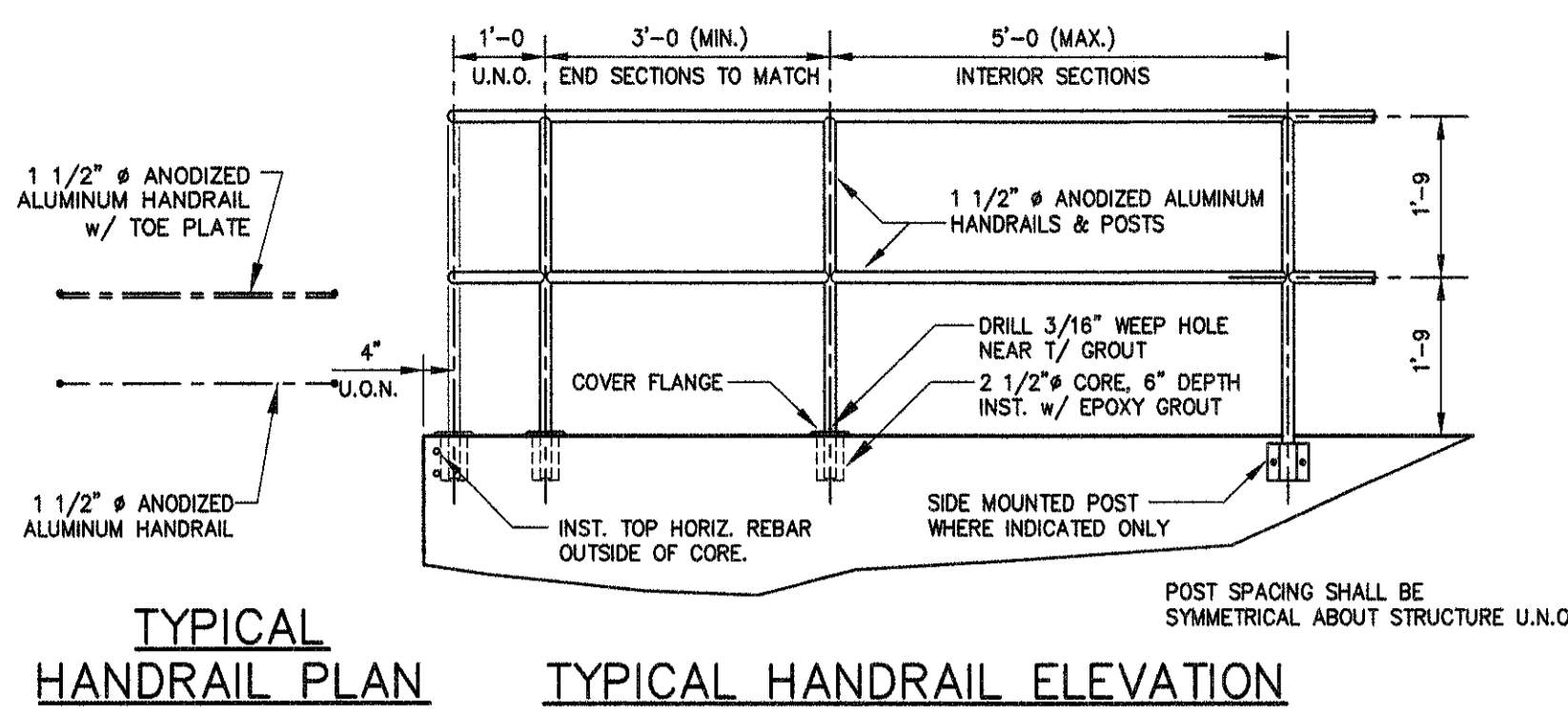
ROD DIAMETER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
REBAR SIZE	# 3	# 4	# 5	# 6	# 7	# 8	# 9
EMBEDMENT	3 1/2"	4 1/4"	5"	6 3/4"	7 3/4"	9"	10 1/8"

- NO EXTRA PAYMENT SHALL BE MADE FOR ADDITIONAL MATERIAL AND LABOR REQUIRED FOR CONSTRUCTION JOINTS INSTALLED AT THE REQUEST OF THE CONTRACTOR.
- SLAB THICKNESS INDICATED ON DRAWINGS IS MINIMUM AND SHALL BE MEASURED FROM FLOOR LOW POINT.
- CONTRACTOR SHALL COORDINATE ARCHITECTURAL, EQUIPMENT, MECHANICAL, AND ELECTRICAL DRAWINGS FOR THE LOCATION OF PIPE SLEEVES, ANCHOR BOLTS, INSERTS ETC. BEFORE PLACING CONCRETE.
- CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PREVENT FLOATATION OF STRUCTURES DURING CONSTRUCTION.
- REBAR SYMBOLS / ABBREVIATIONS -

IF - INSIDE FACE	EW - EACH WAY	MB - MAIN BARS	DWL - DOWELS	DLT - DOWEL	MB - CORNER BARS	DWL - DOWELS
OF - OUTSIDE FACE	SW - SHORT WAY	CB - CORNER BARS	ALT - ALTERNATE	SL - ALTERNATE SPACING	VF - VERTICAL BARS	SL - STAGGER LAPS
NF - NEAR FACE	LW - LONG WAY	VT - VERTICAL BARS	CONT - CONTINUOUS	T&B - TOP & BOTTOM	HRZ - HORIZONTAL BARS	ADD'L - ADDITIONAL BARS
FF - FAR FACE	MIN - MINIMUM	MAX - MAXIMUM	ADD'L - ADDITIONAL BARS	00-00 - BAR LENGTH (FEET-INCHES)	U.N.O. - UNLESS NOTED OTHERWISE	P.E.J. - PRE-FORMED EXPANSION JOINT
EF - EACH FACE	MAX - MAXIMUM	ADD'L - ADDITIONAL BARS	U.N.O. - UNLESS NOTED OTHERWISE	P.E.J. - PRE-FORMED EXPANSION JOINT		
EE - EACH END	AT - AT					
ES - EACH SIDE	MFR. - MANUFACTURER					
W/ - WITH	T&G - TONGUE & GROOVE					



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017			
		STRUCTURAL NOTES & DETAILS	
DRAWN	CHECKED		
GKA	CKB	SCALE: AS SHOWN	DATE: JANUARY 2017
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic		SHEET 66 OF 77	
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA			

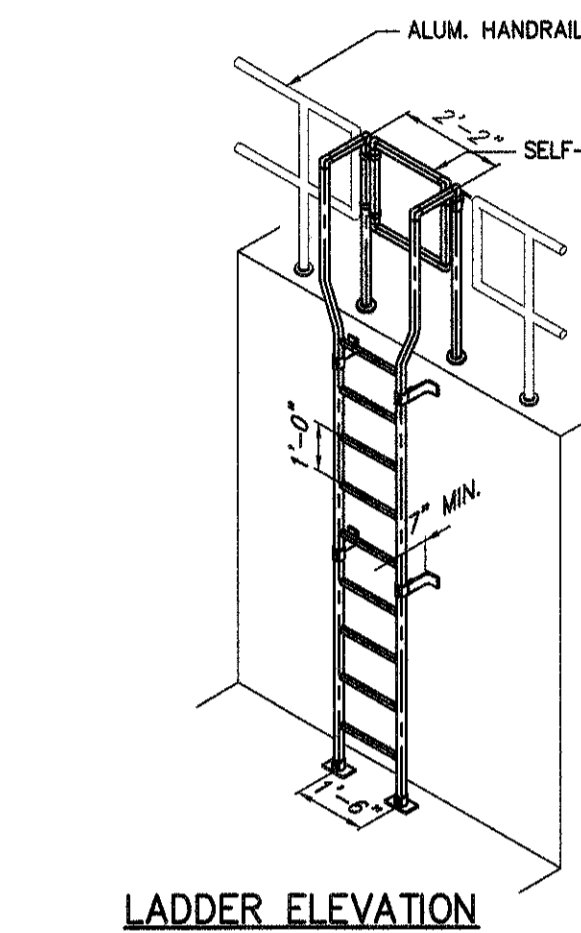


HANDRAIL DESIGN SPECIFICATIONS

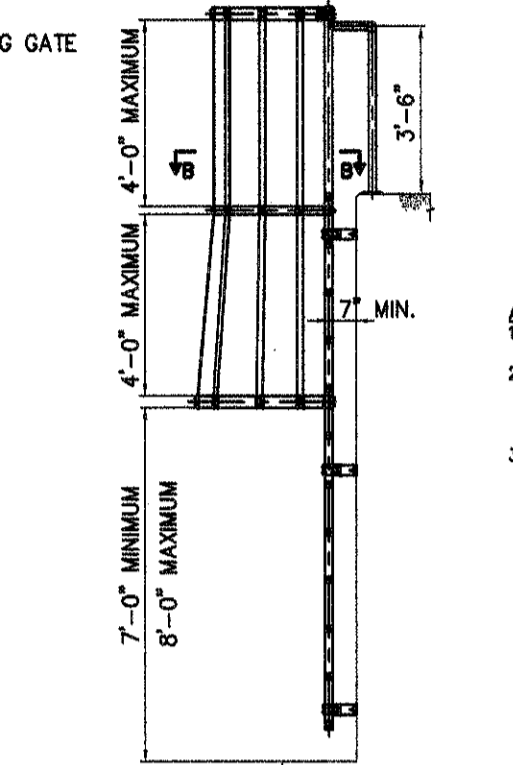
- HANDRAIL SHALL BE THE PRODUCT OF A COMPANY NORMALLY ENGAGED IN THE MANUFACTURE OF PIPE RAILING. RAILING SHALL BE SHOP ASSEMBLED IN LENGTHS NOT TO EXCEED 24 FEET FOR FIELD SECTION.
- HANDRAILS SHALL BE DESIGNED TO WITHSTAND 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION TO THE TOP RAIL. THE MANUFACTURER SHALL SUBMIT CALCULATIONS FOR APPROVAL. IF REQUESTED BY THE ENGINEER, TESTING OF BASE CASTINGS OR BASE EXTRUSIONS BY AN INDEPENDENT LAB OR MANUFACTURER'S LAB OF MANUFACTURER'S LAB MEETS THE REQUIREMENTS OF THE ALUMINUM ASSOCIATION WILL BE AN ACCEPTABLE SUBSTITUTE FOR CALCULATIONS. POST SPACING SHALL BE A MAXIMUM OF 6'-0". SEE SPECIFICATIONS FOR MATERIAL.
- POSTS SHALL NOT INTERRUPT THE CONTINUATION OF THE TOP RAIL AT ANY POINT ALONG THE RAILING, INCLUDING CORNERS AND END TERMINATIONS (OSHA 1910.23). THE TOP SURFACE OF THE TOP RAILING SHALL BE SMOOTH AND SHALL NOT BE INTERRUPTED BY PROJECTED FITTINGS. OPENINGS IN THE RAILING SHALL BE GUARDED BY A SELF-CLOSING GATE (OSHA 1910.23). SAFETY CHAINS SHALL NOT BE USED UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS. FINISH SHALL BE ALUMINUM ASSOCIATION M10-C22-A41 (210-RT).
- THE PIPE SHALL BE PLASTIC-WRAPPED. THE PLASTIC WRAP IS TO BE REMOVED AFTER ERECTION.
- ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT. ISOLATORS OR OTHER APPROVED MATERIAL.
- WHERE POSTS ARE SET IN CORED HOLES USING EPOXY GROUT THE TOP SURFACE OF GROUT SHALL BE BEVELED AROUND POST AND TOP EDGE OF GROUT SHALL BE 3/8" ABOVE CONCRETE SURFACE AS A 3/8" FILLET.

TYPICAL HANDRAIL PLAN

TYPICAL HANDRAIL ELEVATION



LADDER ELEVATION

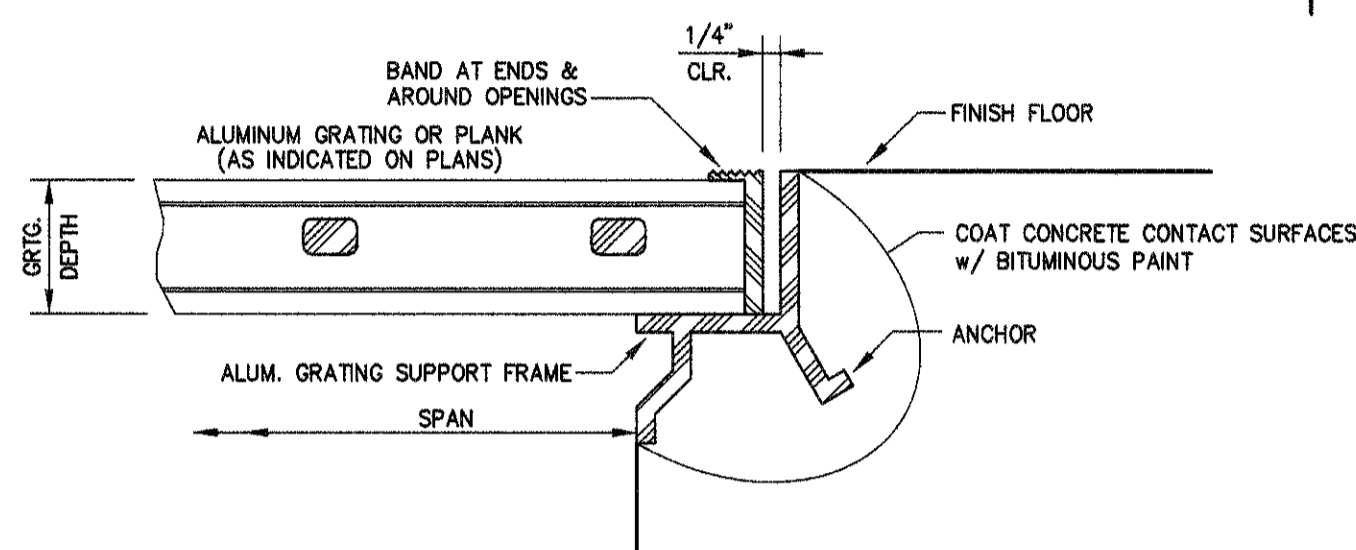


CAGED LADDER ELEVATION

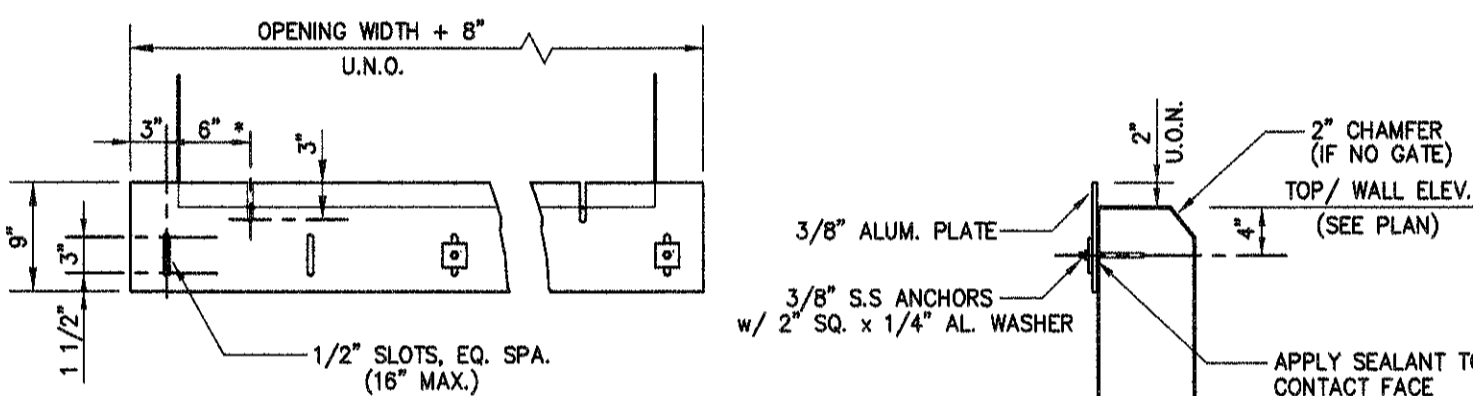
ALUMINUM LADDER DESIGN SPECIFICATIONS

- RUNG DESCRIPTION: THE RUNG SHALL BE DESIGNED TO PROVIDE A NON-SLIP POWER GRIP SURFACE WITH A FLAT 1" WIDE SERRATED TOP SURFACE AND A SEMICIRCULAR BOTTOM.
- SIDE RAIL DESCRIPTION: THE SIDE RAIL SHALL BE 1 1/2" SCHEDULE 40 PIPE, ALLOY 6061-T6, 6105-T6 OR 6261-T6.
- CODES: THE LADDER SHALL MEET THE REQUIREMENTS OF ANSI-A14.3.
- DESIGN LOADS:
 - LADDER RUNGS SHALL BE DESIGNED TO WITHSTAND A CONCENTRATED LOAD OF 250 POUNDS PLUS 30# IMPACT. MAXIMUM RUNG DEFLECTION SHALL NOT EXCEED L/360. THE DESIGN LOAD SHALL BE APPLIED AT THE CENTER OF THE RUNG ON A 4" WIDE AREA.
 - LADDER SIDE RAILS SHALL BE DESIGNED TO WITHSTAND A MINIMUM LINE LOAD OF TWO 250 POUND LOADS PLUS 30# IMPACT CONCENTRATED BETWEEN ANY TWO CONSECUTIVE ATTACHMENTS.
- FINISH: PIPE FOR SIDE RAILS SHALL HAVE ALL ASSOC. ANI FINISH. RUNGS, CAGE AND BRACKETS ARE TO BE MILL FINISH.
- SELF-CLOSING GATES ARE REQUIRED WHERE SHOWN ON PLANS.
- ALUMINUM LADDER GATE DESIGN SPECIFICATIONS:
 - GATE GENERAL DESIGN AND SIZE SHALL BE IN ACCORDANCE WITH ANSI-A14.3.
 - THE GATE MEMBERS SHALL BE ALUMINUM BARS, 3"x1/4" FOR THE TOP AND BOTTOM BANDS AND 2"x1/4" FOR THE INTERMEDIATE BANDS. VERTICAL BARS SHALL BE 1 1/2"x3/16" OR 1 1/2"x3/16".
 - GATES ARE REQUIRED ON LADDERS ONLY WHERE SHOWN ON THE PLANS.

SECTION B-B

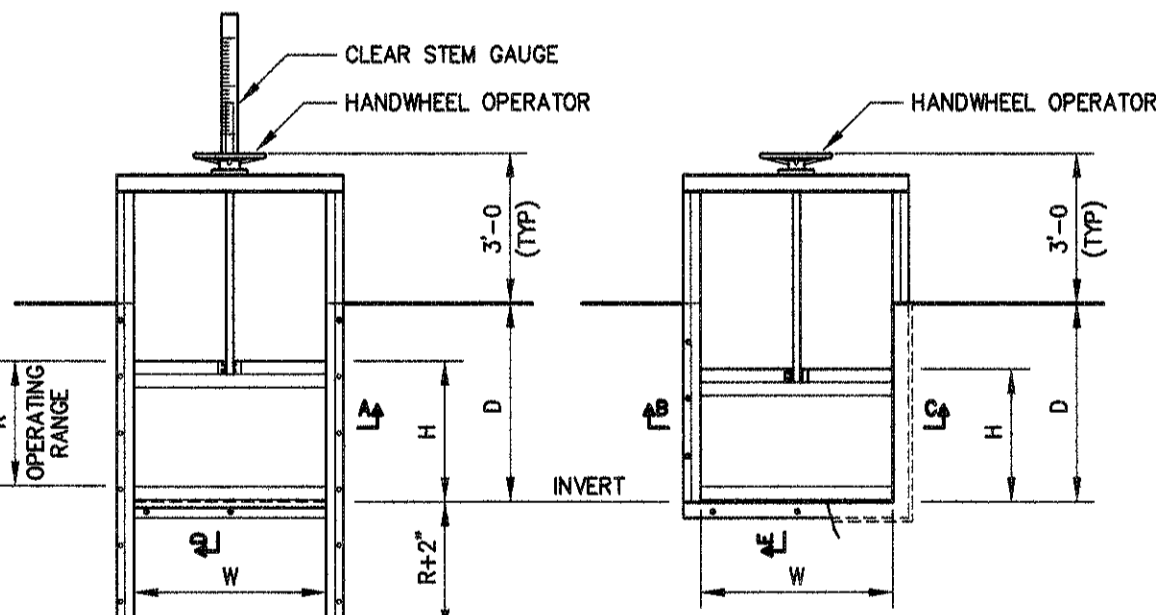


SECTION - GRATING/PLANK SUPPORT



ELEVATION SECTION

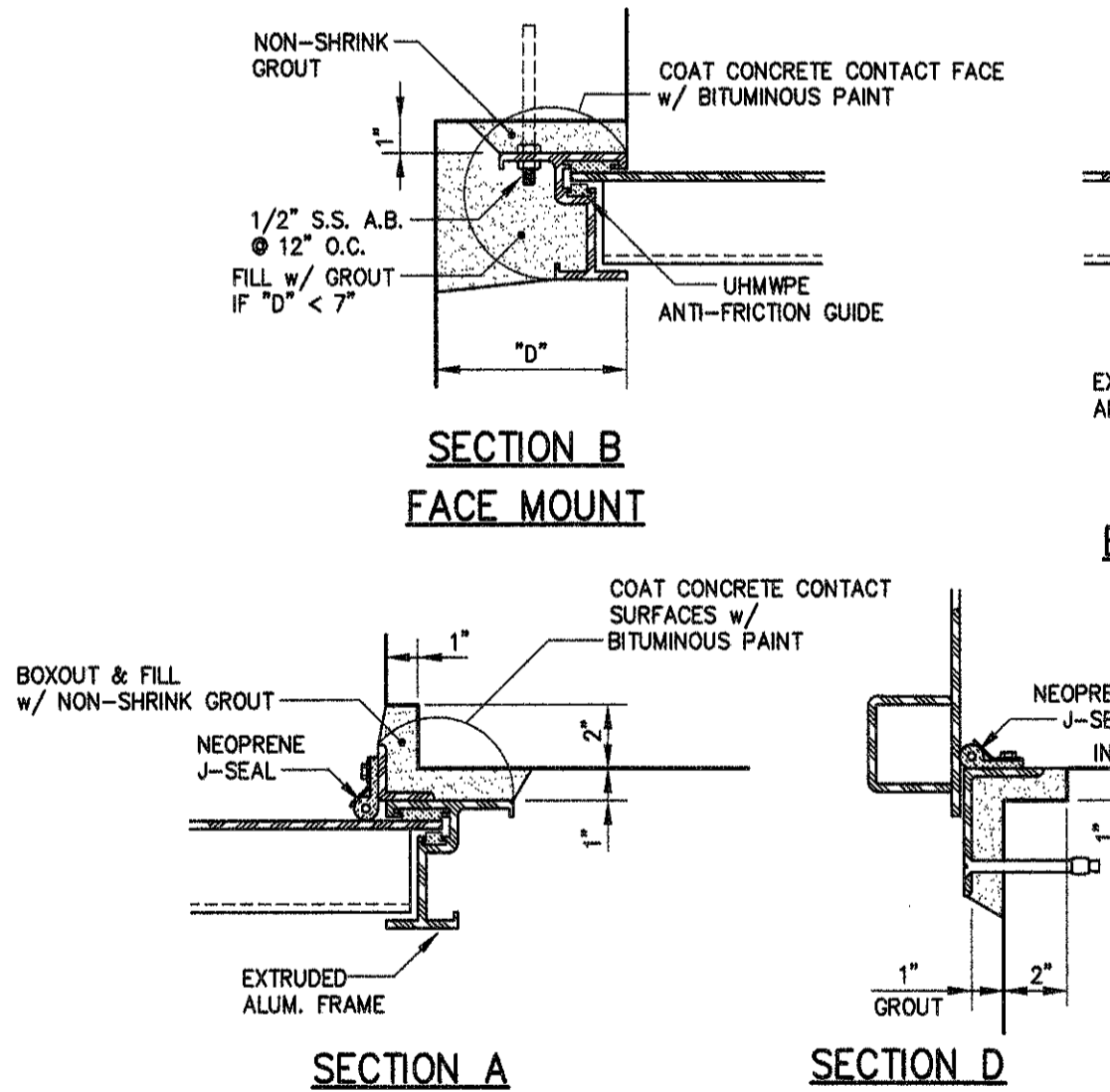
TYPICAL WEIR PLATE DETAIL



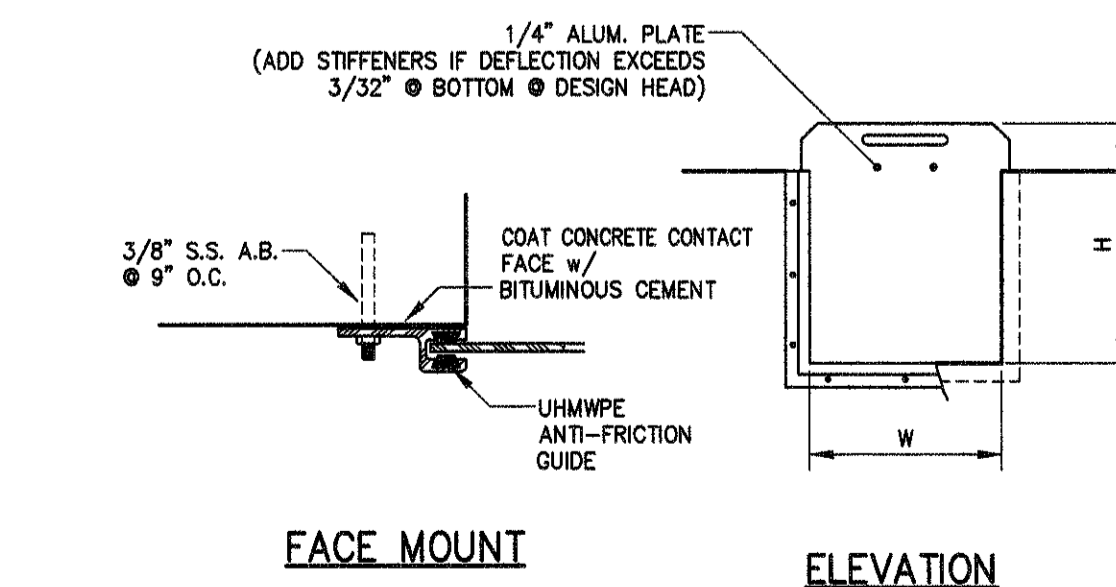
WEIR GATE ELEVATION SLIDE GATE ELEVATION

ALUMINUM GATE DETAILS

GATE SCHEDULE							
MARK	SHEET	LOCATION	TYPE	MOUNT	W	H	D
G-1,2	33	EFFLUENT PUMP STATION	SLIDE	FACE	2'-0"	2'-0"	11'-2"

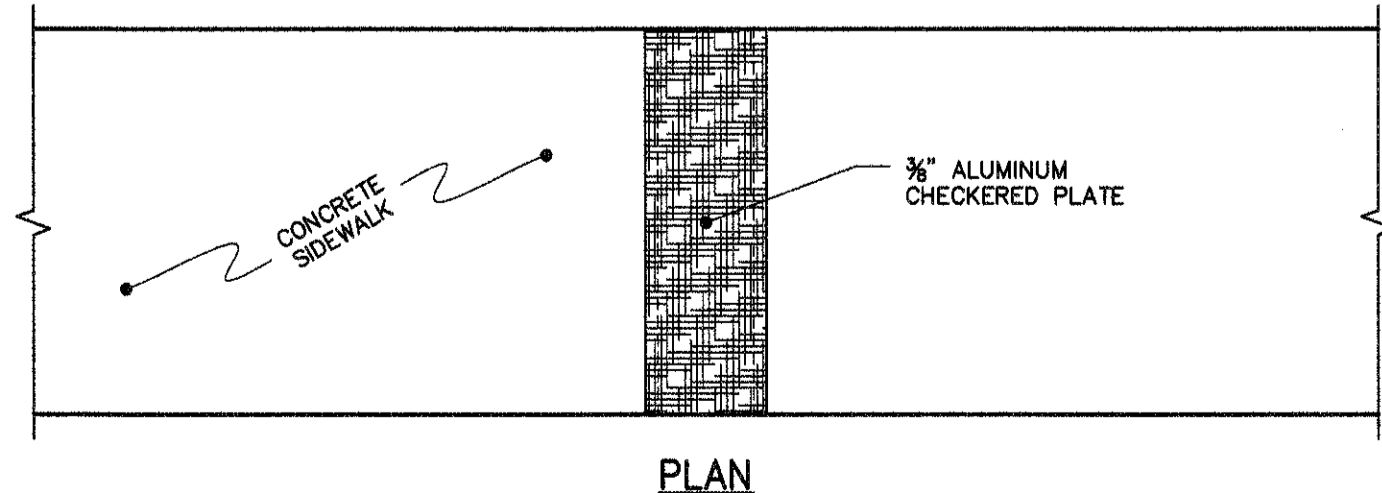


SECTION A SECTION B SECTION C SECTION D SECTION E



FACE MOUNT EMBED MOUNT

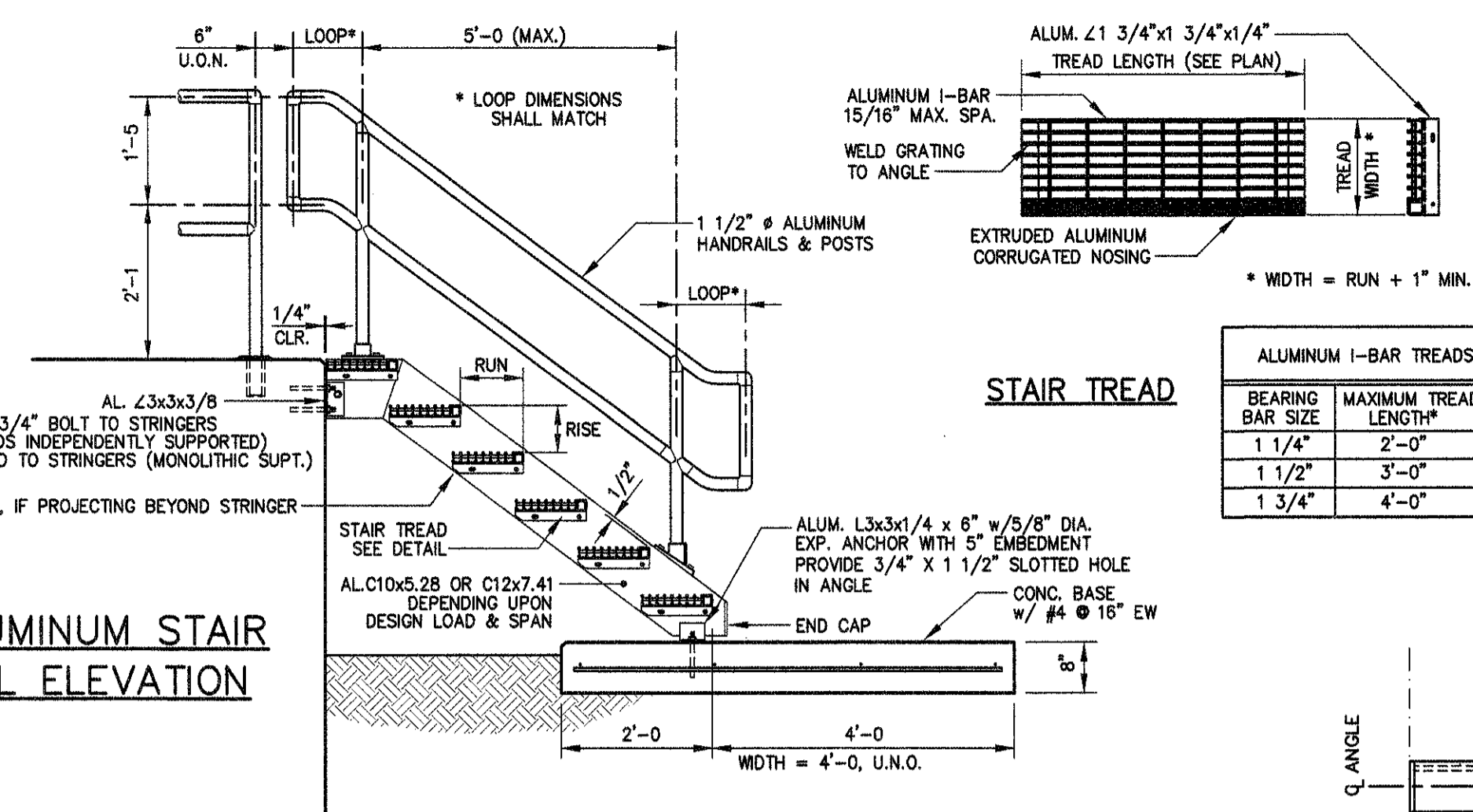
ALUMINUM STOP GATE DETAILS



SIDEWALK FLUME DETAIL N.T.S.

GRATING SCHEDULE	
SPANS	DEPTH *
3'-0" OR LESS	1"
3'-1 TO 4'-0	1 1/4"
4'-1 TO 5'-0	1 1/2"
5'-1 TO 6'-0	1 3/4"
6'-1 TO 7'-0	2"
> 7'-0	MIN. 1/4" DEFLECTION W/ 100 PSF LOADING.

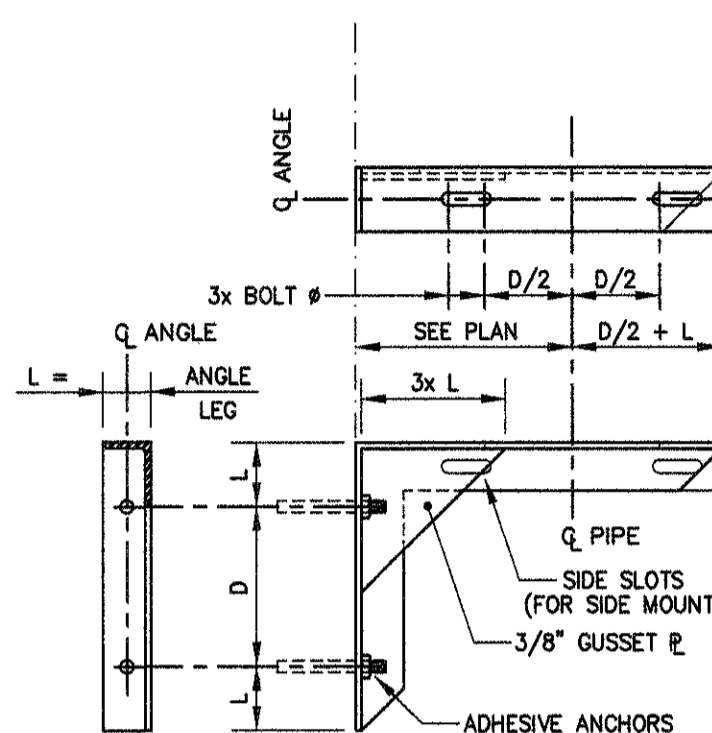
* MINIMUM REQUIRED, OR MIN. L/240 DEFLECTION W/ 100 PSF LOADING.



TYPICAL ALUMINUM STAIR & HANDRAIL ELEVATION

STAIR TREAD

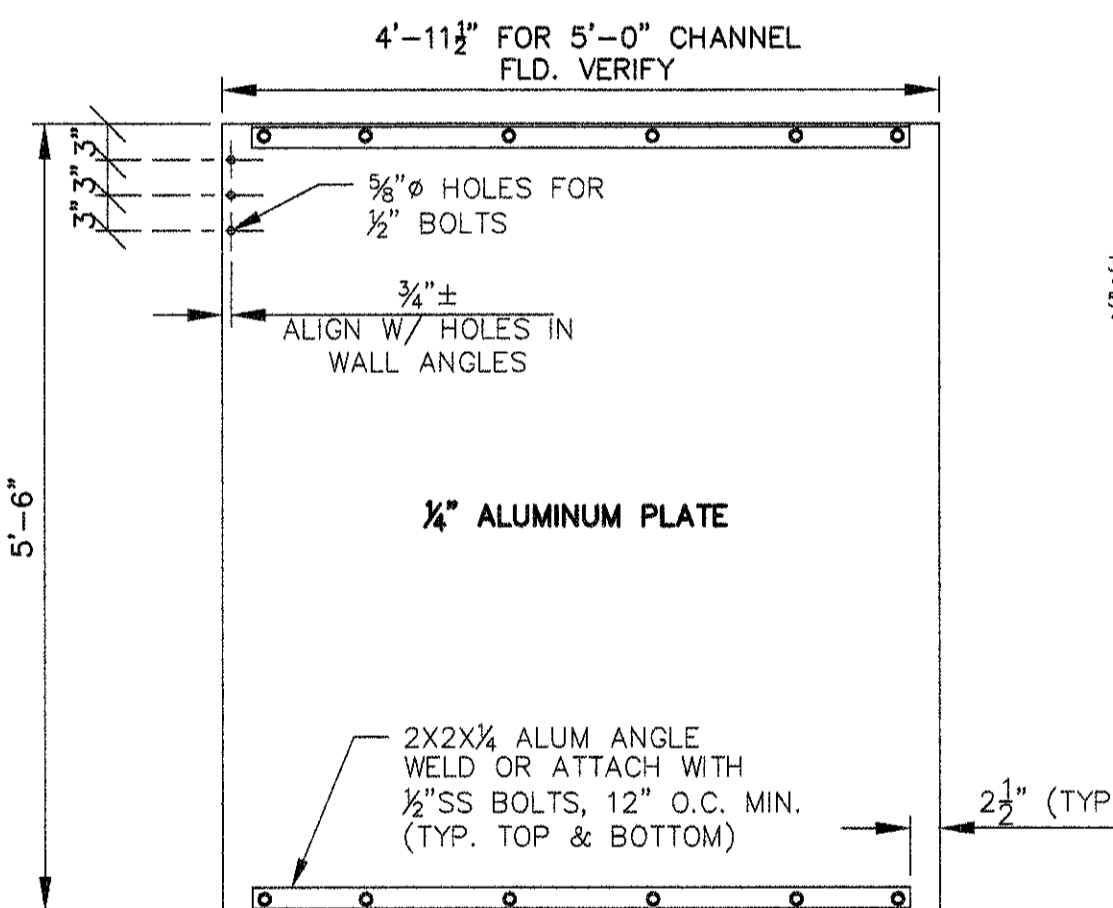
ALUMINUM I-BAR TREADS	
BEARING BAR SIZE	MAXIMUM TREAD LENGTH*
1 1/2"	2'-0"
1 1/4"	3'-0"
1 3/4"	4'-0"



TYPE "A"

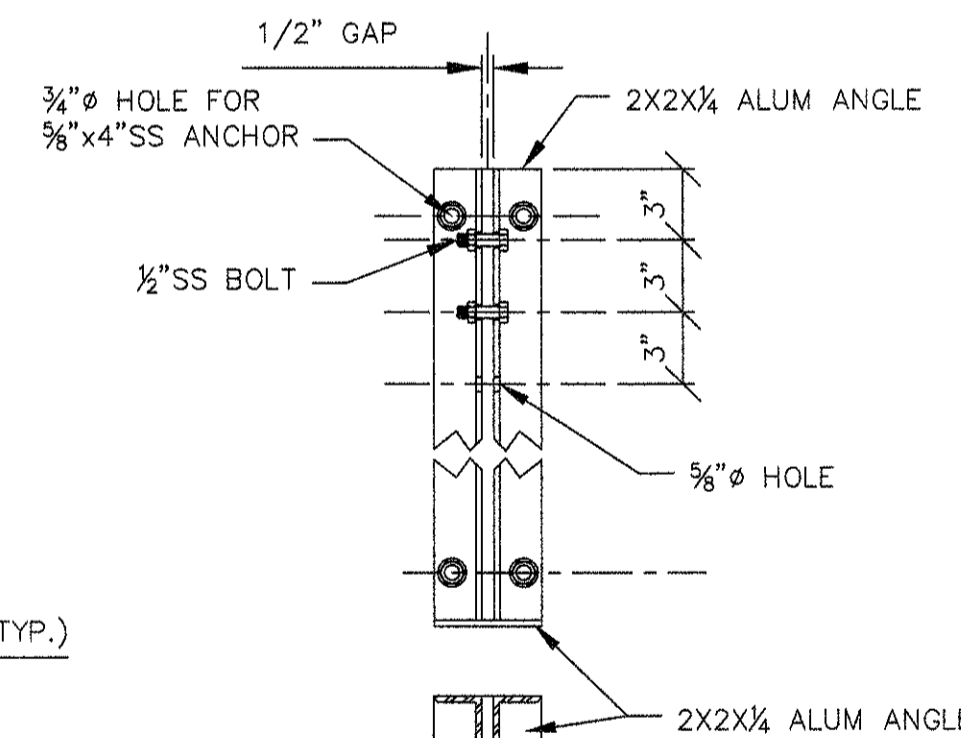
TYPE "B"

TYPICAL PIPE SUPPORT DETAILS



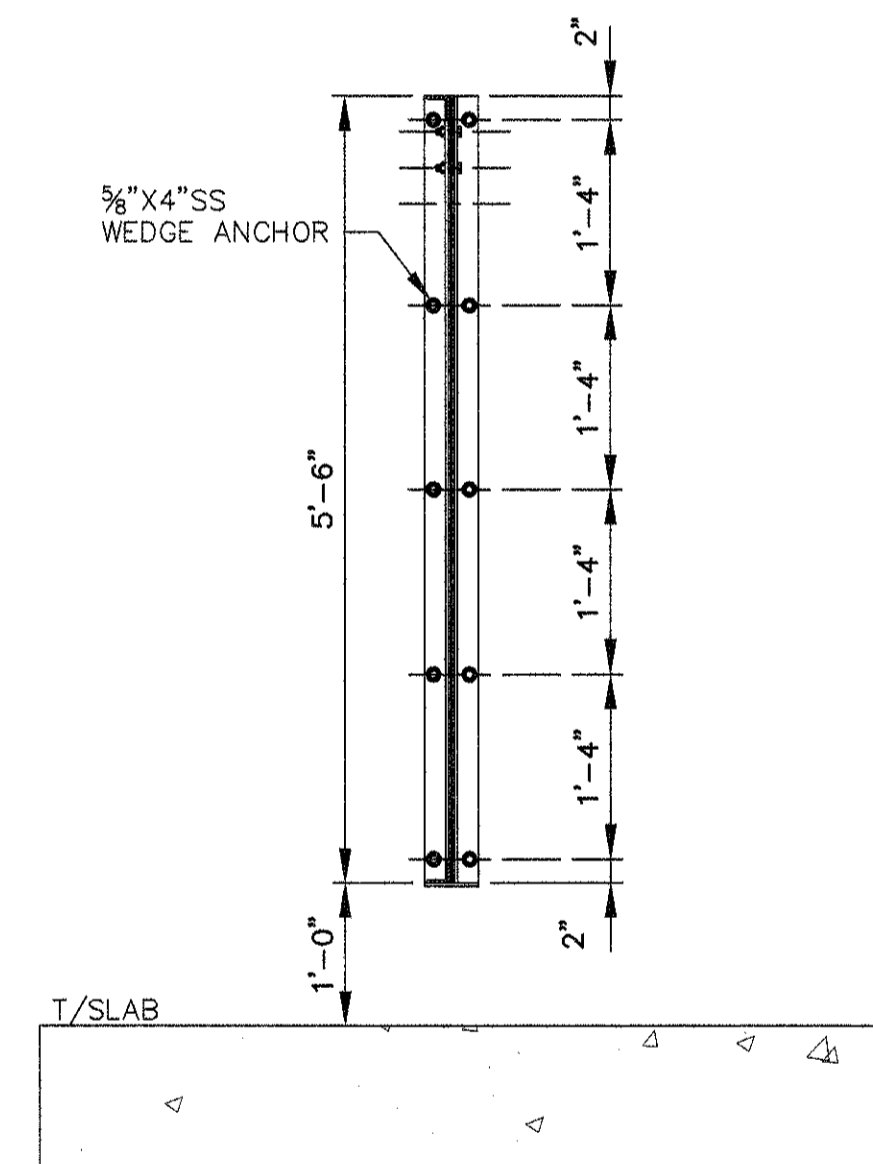
BAFFLE PLATE DETAIL

SCALE: N.T.S.



BAFFLE SUPPORT DETAIL

SCALE: N.T.S.



BAFFLE SECTION

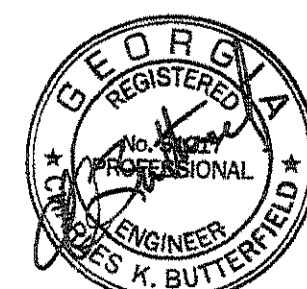
SCALE: N.T.S.

GENERAL MISCELLANEOUS METALS NOTES

- STRUCTURAL STEEL -
 - CODES AND STANDARDS: A.I.S.C. MANUAL OF STEEL CONSTRUCTION, LATEST EDITION, AND CODES AND STANDARDS CITED THEREIN.
 - STEEL STRENGTH: ASTM A-36.
- CONNECTIONS:
 - CONNECTIONS SHALL BE DESIGNED TO DEVELOPE THE STRENGTH OF THE MEMBER CONNECTED AND AS DETAILED ON THE DRAWINGS.
 - SHOP CONNECTIONS MAY BE BOLTED OR WELDED, AS APPROVED BY THE ENGINEER.
 - FIELD CONNECTIONS MAY BE BOLTED OR WELDED, AS APPROVED BY THE ENGINEER.
 - FIELD STRENGTH SHALL BE MINIMUM ASTM A-325.
- ALUMINUM -
 - CODES AND STANDARDS: ALUMINUM STANDARDS AND DATA, BY "THE ALUMINUM ASSOCIATION", LATEST EDITION.
 - ALUMINUM ALLOYS: SEE SPECIFICATIONS.
- CONNECTIONS:
 - CONNECTIONS SHALL BE DESIGNED TO DEVELOPE THE STRENGTH OF THE MEMBER CONNECTED AND AS DETAILED ON THE DRAWINGS.
 - SHOP CONNECTIONS MAY BE BOLTED OR WELDED, AS APPROVED BY THE ENGINEER.
 - ALL FIELD CONNECTIONS SHALL BE BOLTED.
 - ALL HARDWARE SHALL BE TYPE 302 OR TYPE 304 S.S..

PIPE SUPPORT SCHEDULE		
PIPE "D"	ANGLE SIZE	BOLT SIZE
≤ 6"	2 1/2" x 2 1/2" x 3/8"	1/2"
8" - 10"	3" x 3" x 3/8"	1/2"
12" - 16"	4" x 4" x 3/8"	5/8"
≥ 16"	SEE PLAN	

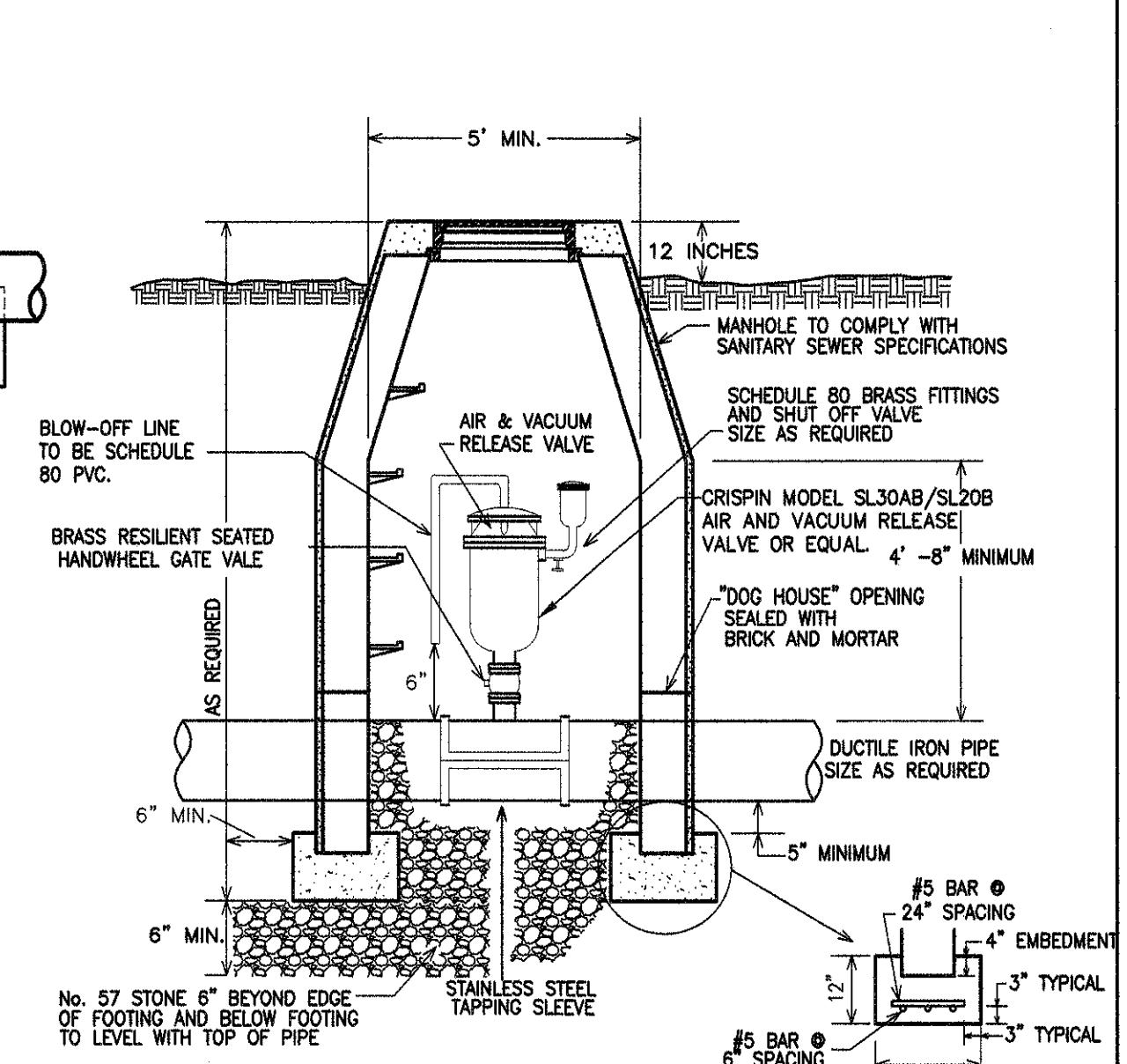
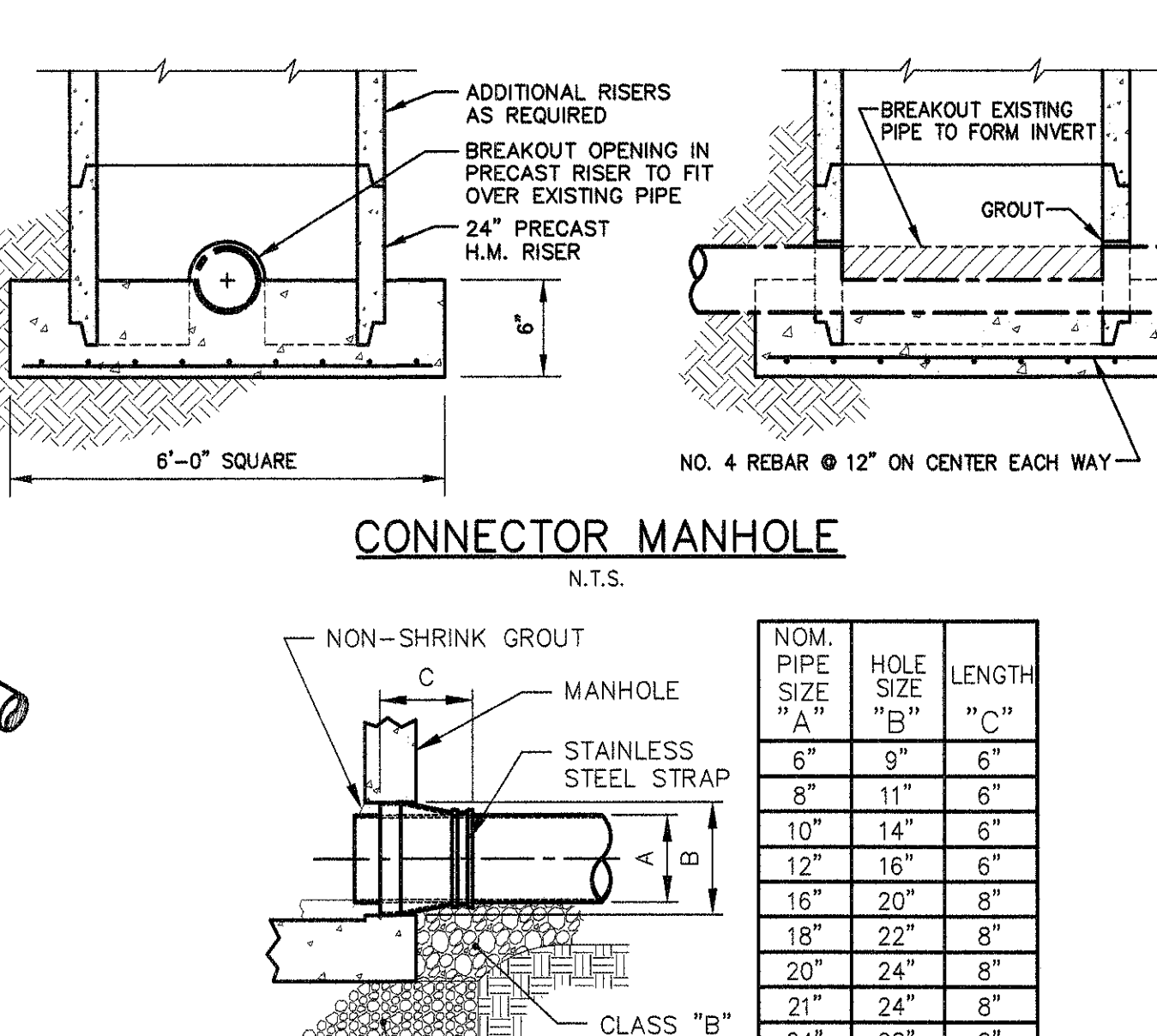
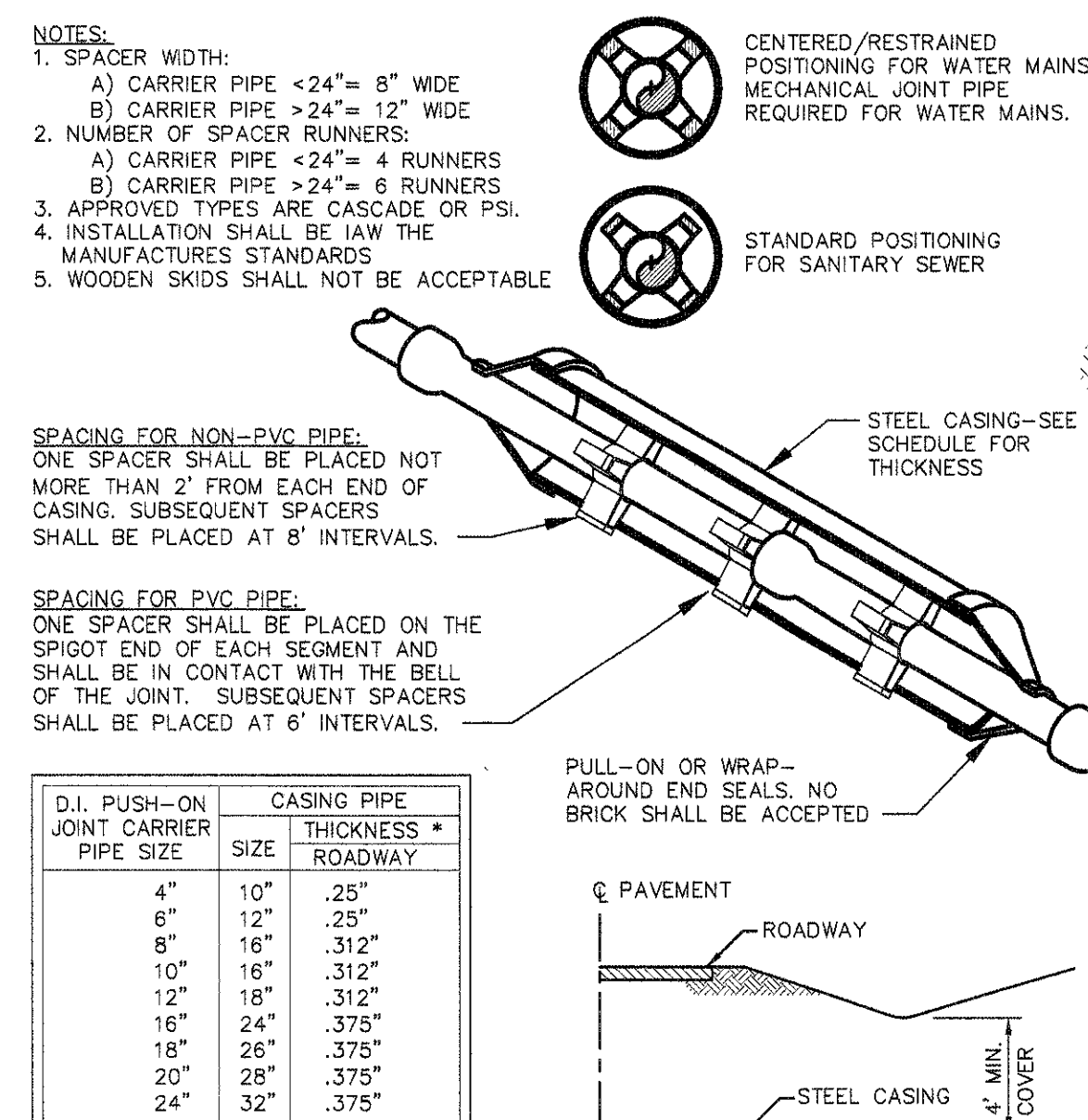
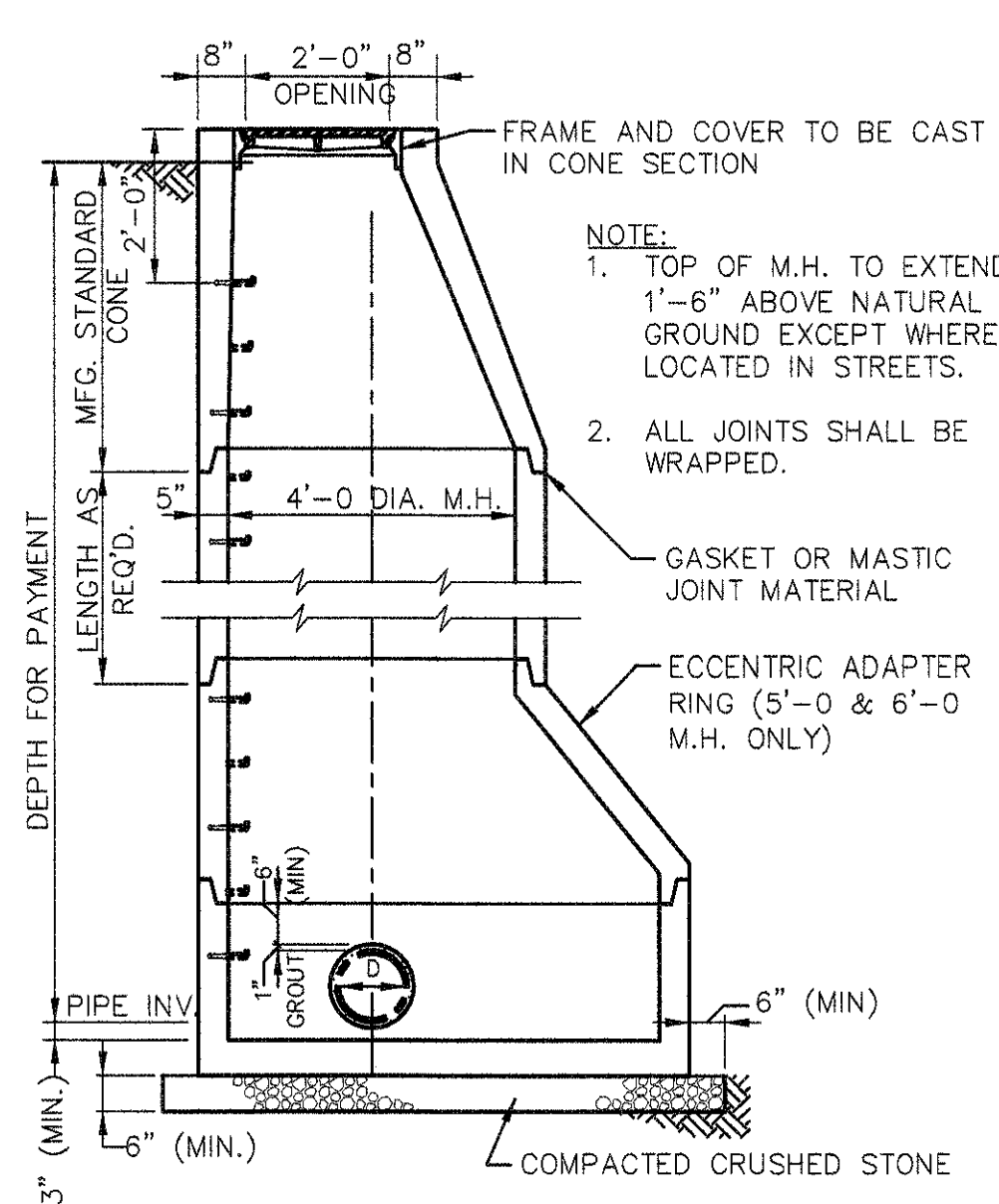
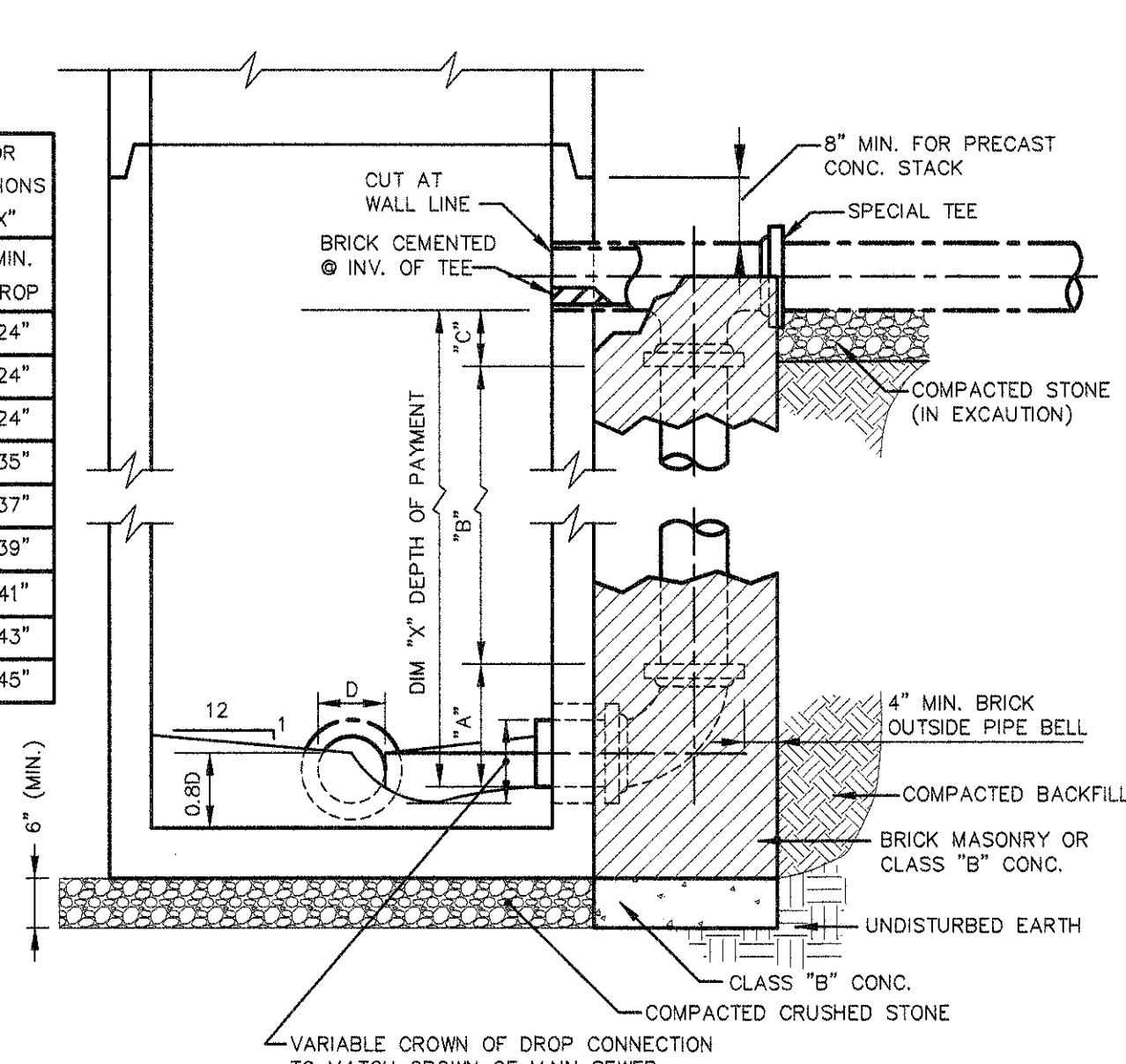
- NOTES:
- ANGLE AND CLAMP MATERIAL SHALL BE 316 S.S. FOR EXTERIOR AND SUBMERGED WATER SERVICE. MATERIAL SHALL BE CARBON STEEL, GALV. AND PAINTED PER SPECIFICATIONS, FOR OTHER SERVICES.
 - BOLTS AND ANCHORS SHALL BE A-307, GALV., EXCEPT FOR EXPOSED CONDITIONS AND WATER SERVICE SHALL BE 316 S.S.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017			
		MISCELLANEOUS METALS NOTES & DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS <i>Environmental - Civil - Hydraulic</i>	
		SHEET 67 OF 77	
		ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	

SCHEDULE FOR DROP CONNECTIONS DIMENSION "X"

PIPE SIZE	DROP SIZE	MIN. DROP
6"	6"	24"
8"	8"	24"
10"	8"	24"
12"	10"	35"
15"	12"	37"
18"	15"	39"
21"	18"	41"
24"	18"	43"
30"	18"	45"



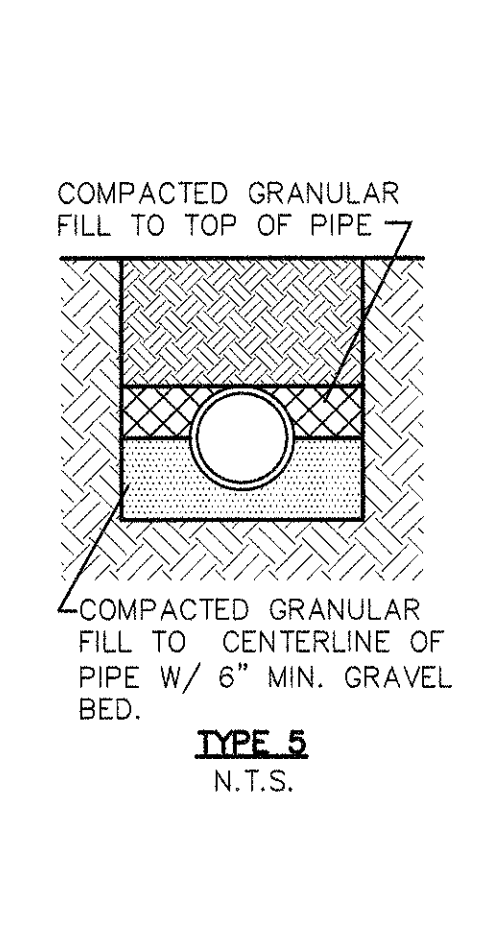
TYP. PRECAST CONC. M.H. DROP CONNECTION DET.
N.T.S.

TYP. PRECAST CONC. M.H. DET.
N.T.S.

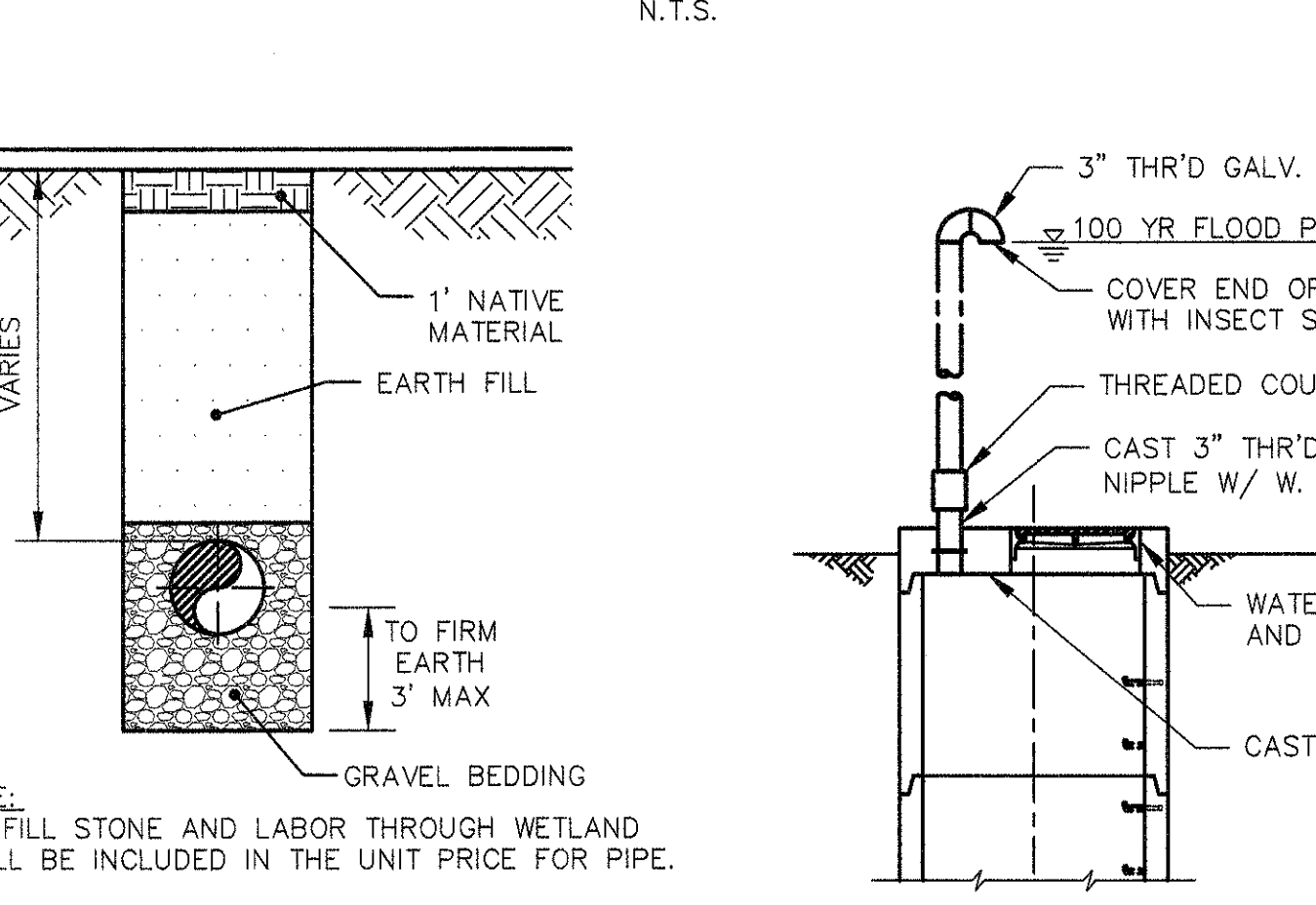
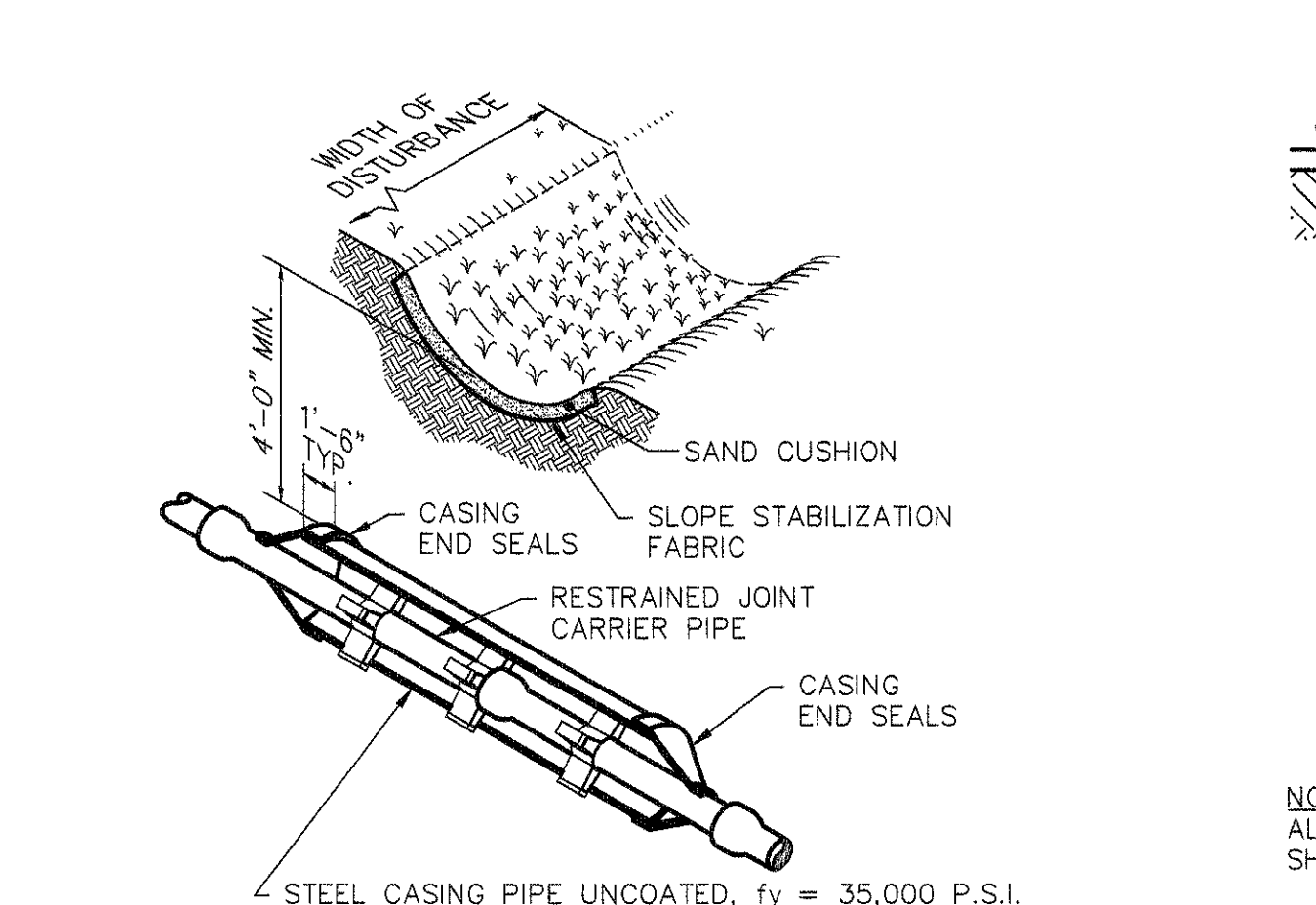
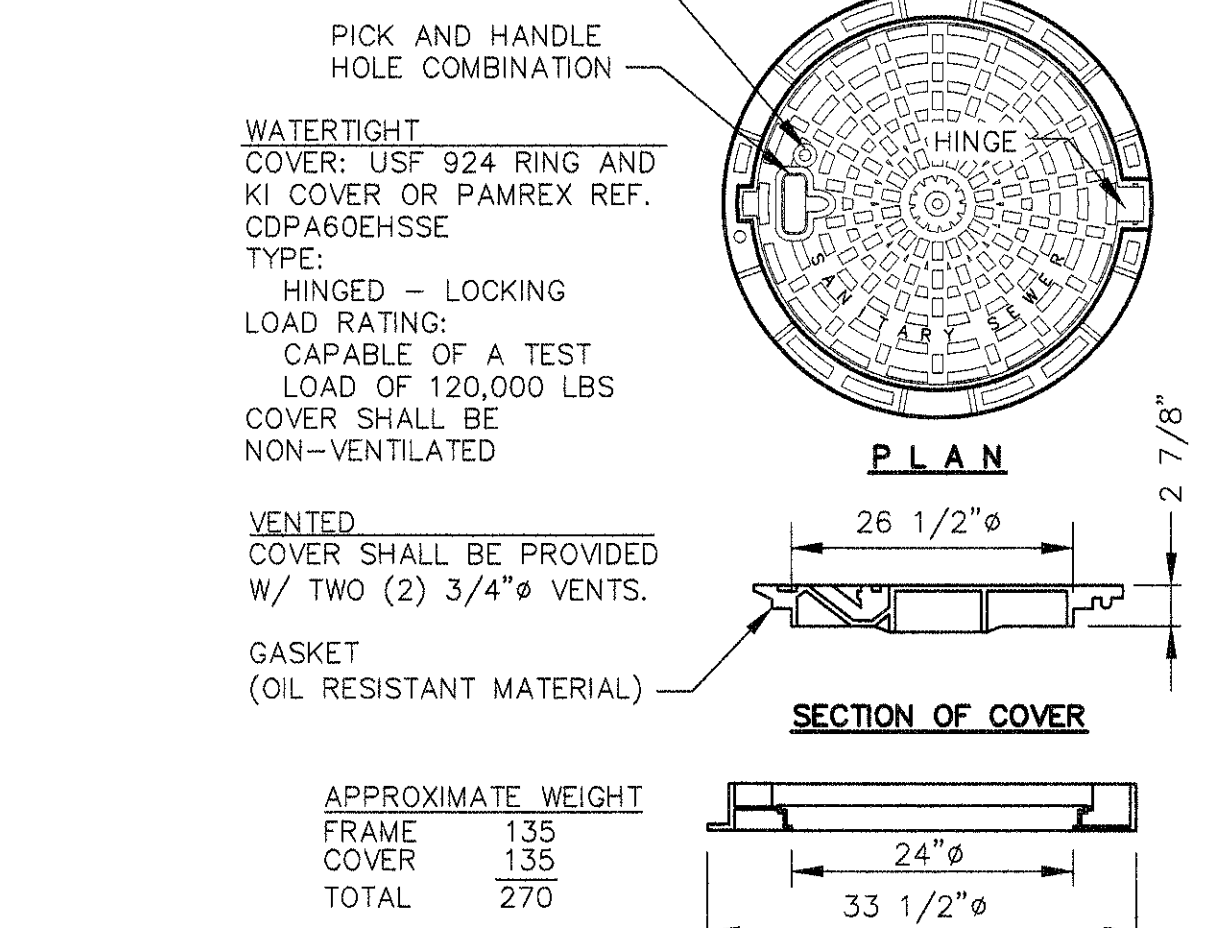
TYPICAL ENCASED CROSSING DETAIL
N.T.S.

CONNECTOR MANHOLE
N.T.S.

SECTION AIR & VACUUM RELEASE VALVE AND M.H. DET
N.T.S.



PIPE SIZE IN.	PRESSURE CLASS	NOMINAL THICK IN.	TYPE 5 TRENCH
8	350	0.25	50
10	350	0.26	45
12	350	0.28	44
14	300	0.30	42
	350	0.31	44
16	250	0.30	34
	300	0.32	39
	350	0.34	44
18	250	0.30	31
	300	0.32	36
	350	0.34	41
20	250	0.33	30
	300	0.36	35
	350	0.38	38
24	200	0.33	25
	250	0.37	29
	300	0.40	32
	350	0.43	37
30	150	0.34	22
36	150	0.38	21
42	150	0.41	20



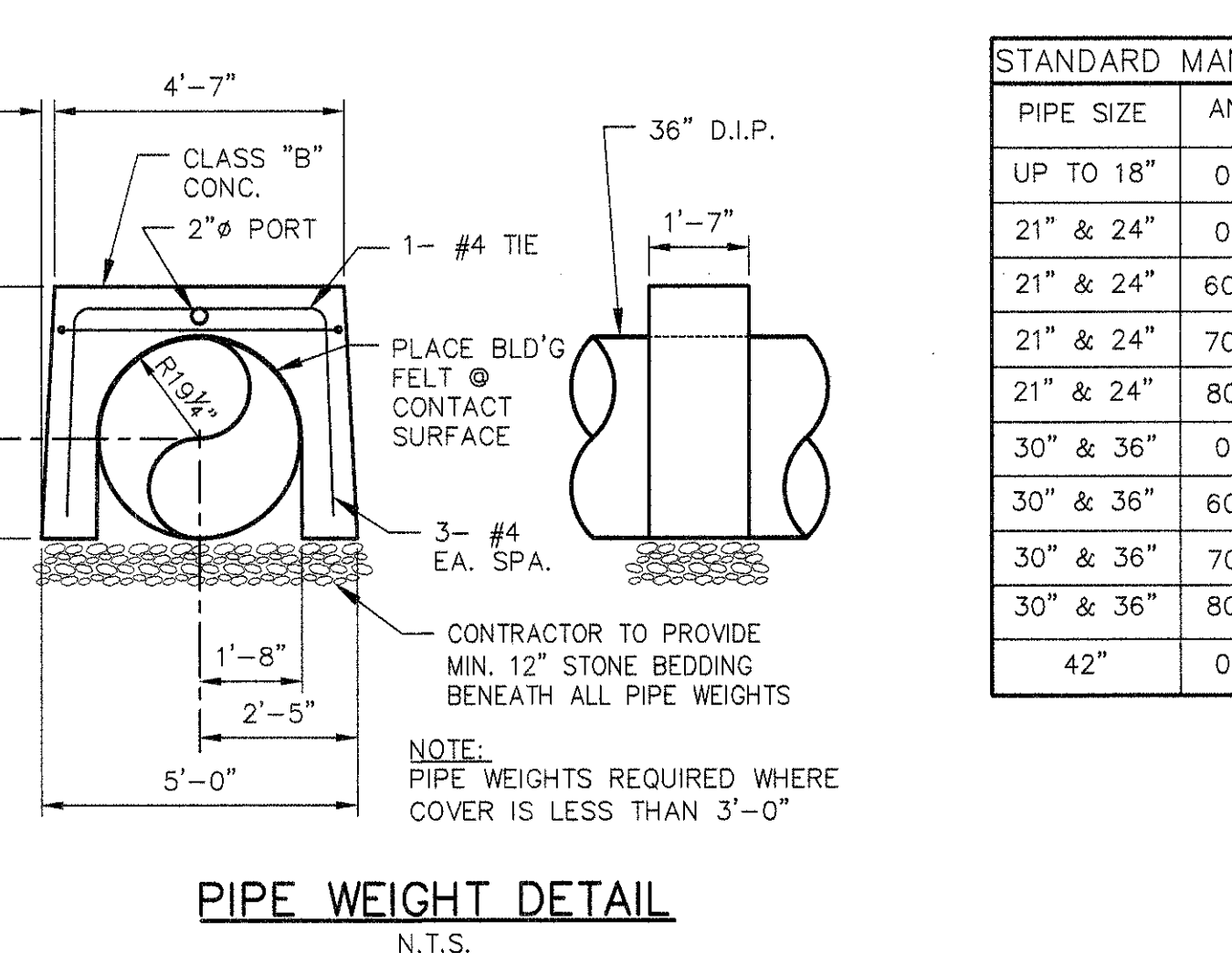
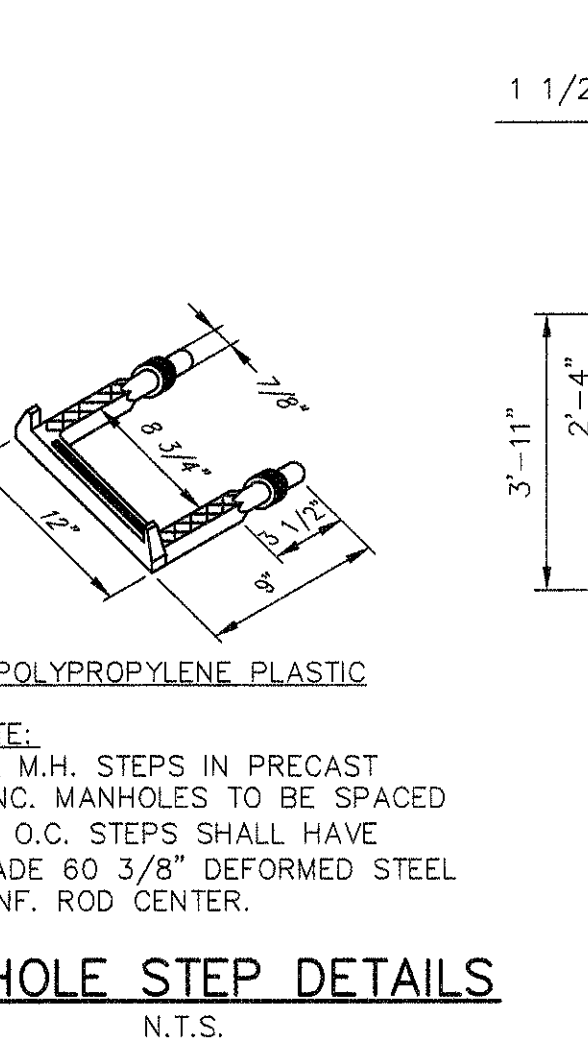
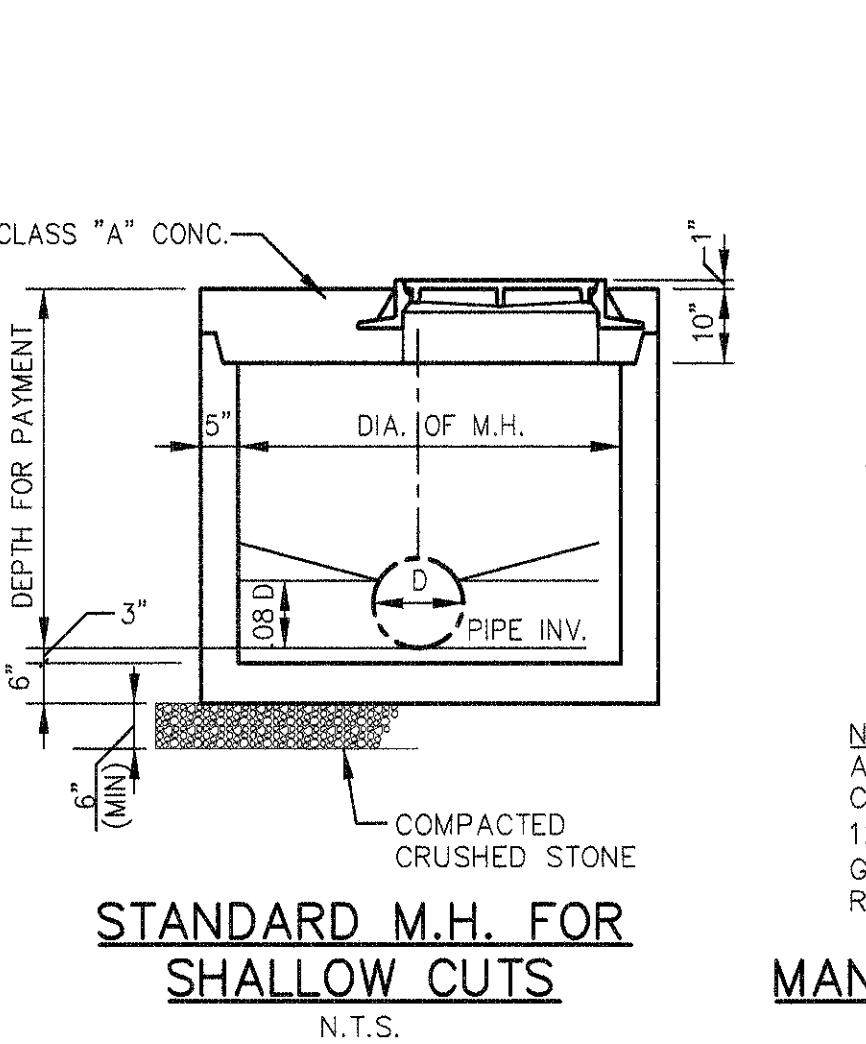
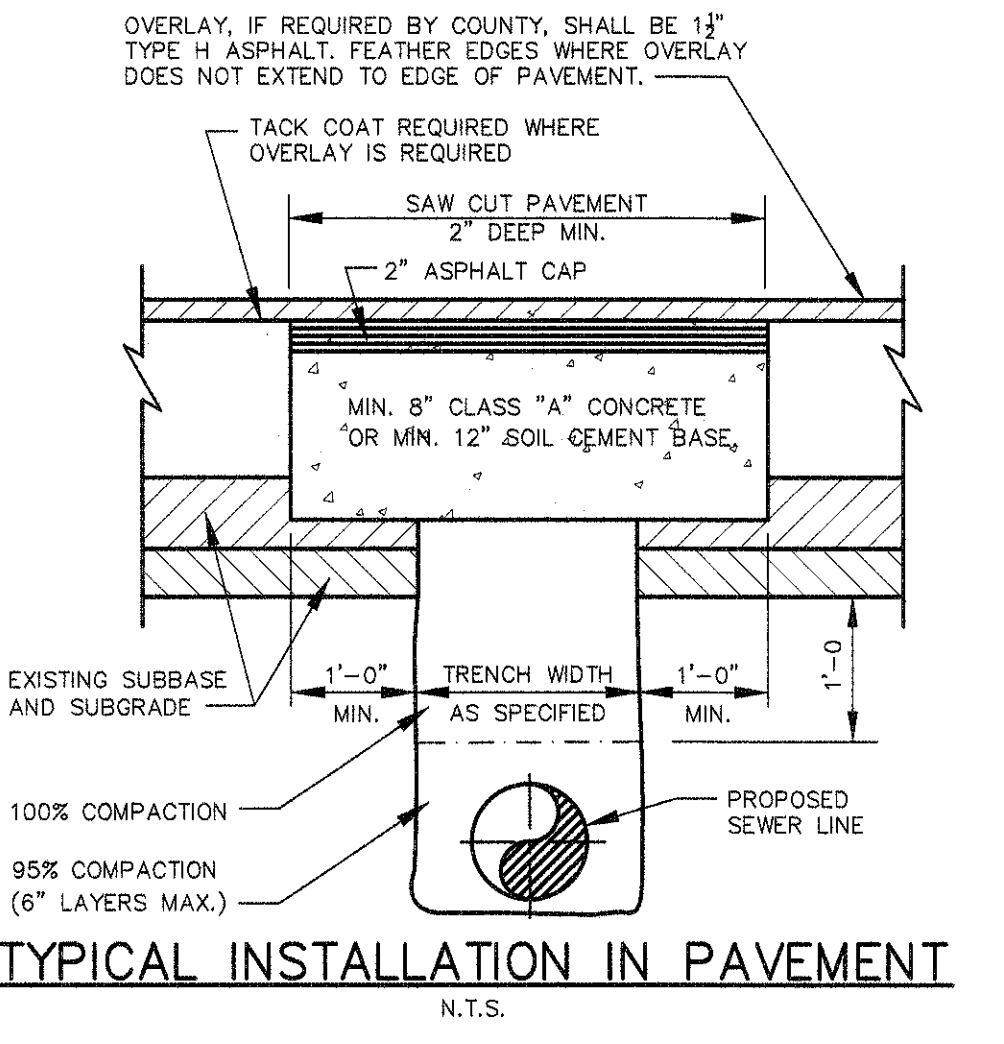
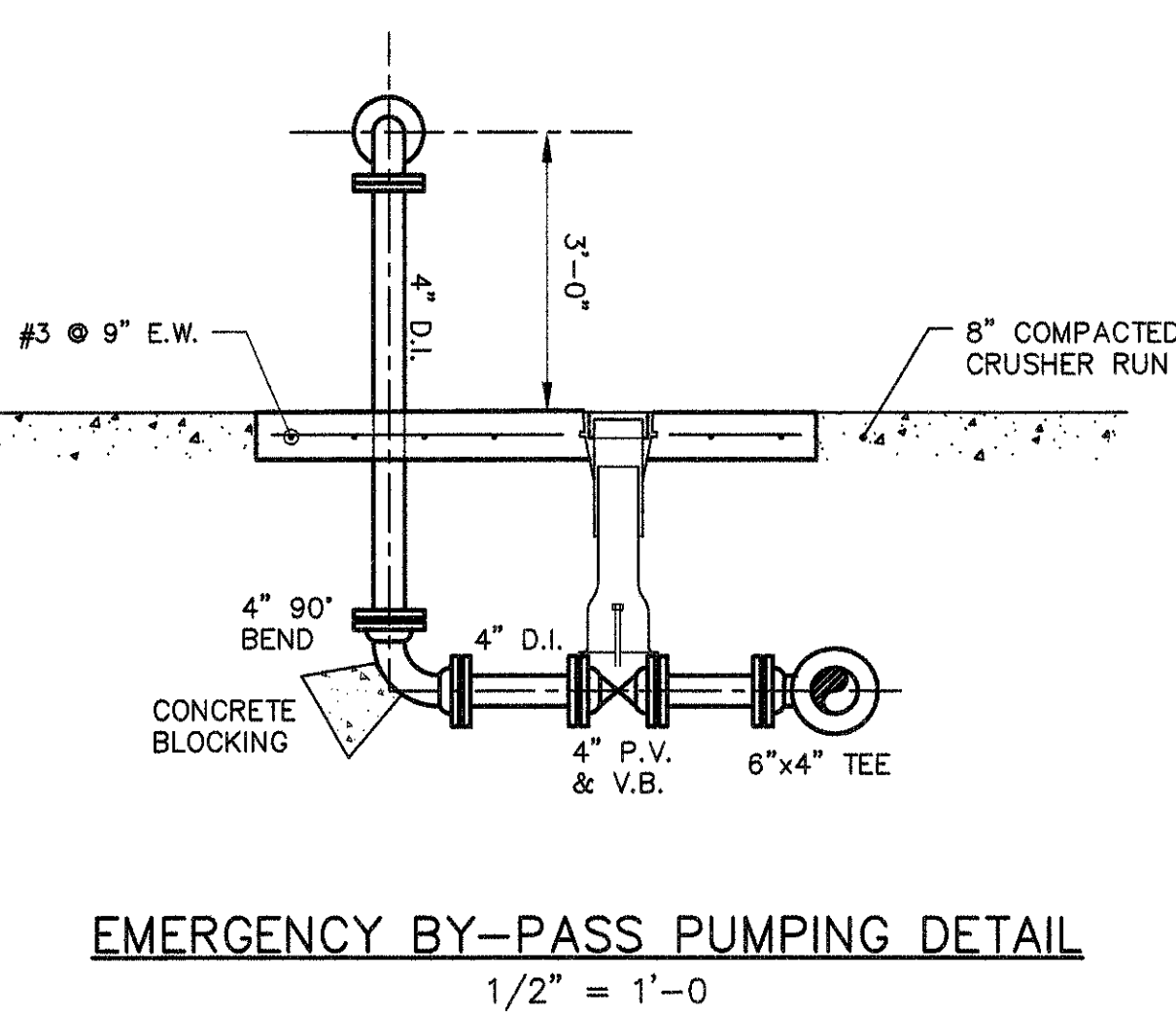
SEWER PIPE BEDDING DETAIL
N.T.S.

MANHOLE FRAME & COVER
N.T.S.

TYPICAL CREEK CROSSING DETAIL
N.T.S.

CONSTRUCTION DETAIL SEWERLINE THROUGH WETLAND
N.T.S.

M.H. VENT STACK DETAIL
N.T.S.



STANDARD MANHOLES SCHEDULE

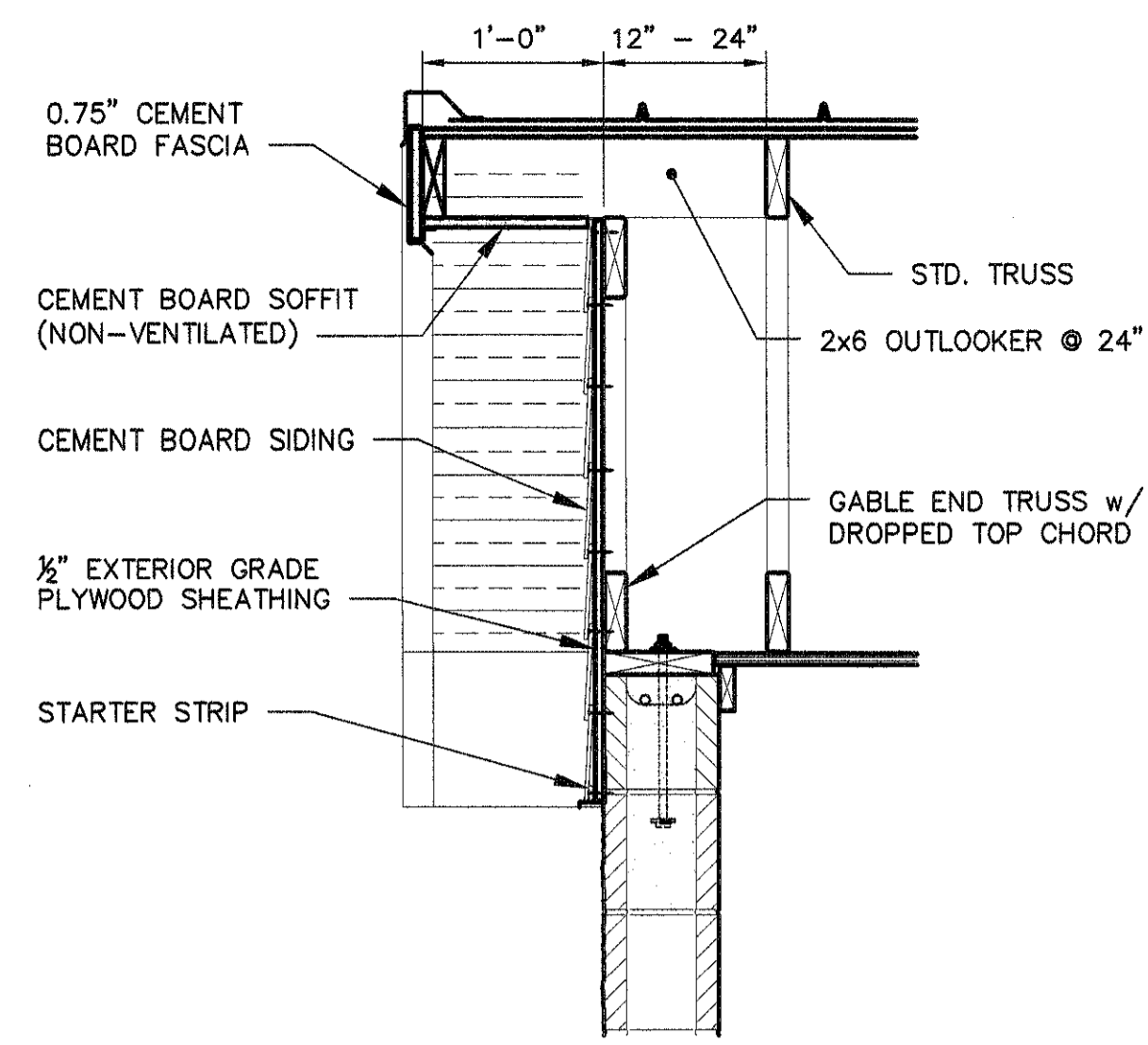
PIPE SIZE	ANGLE (<)	MANHOLE DIAMETER
UP TO 18"	0° TO 90°	4'-0"
21" & 24"	0° TO 60°	4'-0"
21" & 24"	60° TO 70°	5'-0"
21" & 24"	70° TO 80°	5'-0"
21" & 24"	80° TO 90°	5'-0"
30" & 36"	0° TO 60°	5'-0"
30" & 36"	60° TO 70°	6'-0"
30" & 36"	70° TO 80°	6'-0"
30" & 36"	80° TO 90°	6'-0"
42"	0° TO 90°	6'-0"

REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017	WATER POLLUTION CONTROL PLANT - PHASE II	
STANDARD SEWER & MANHOLE DETAILS		
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA
		SHEET 68 OF 77

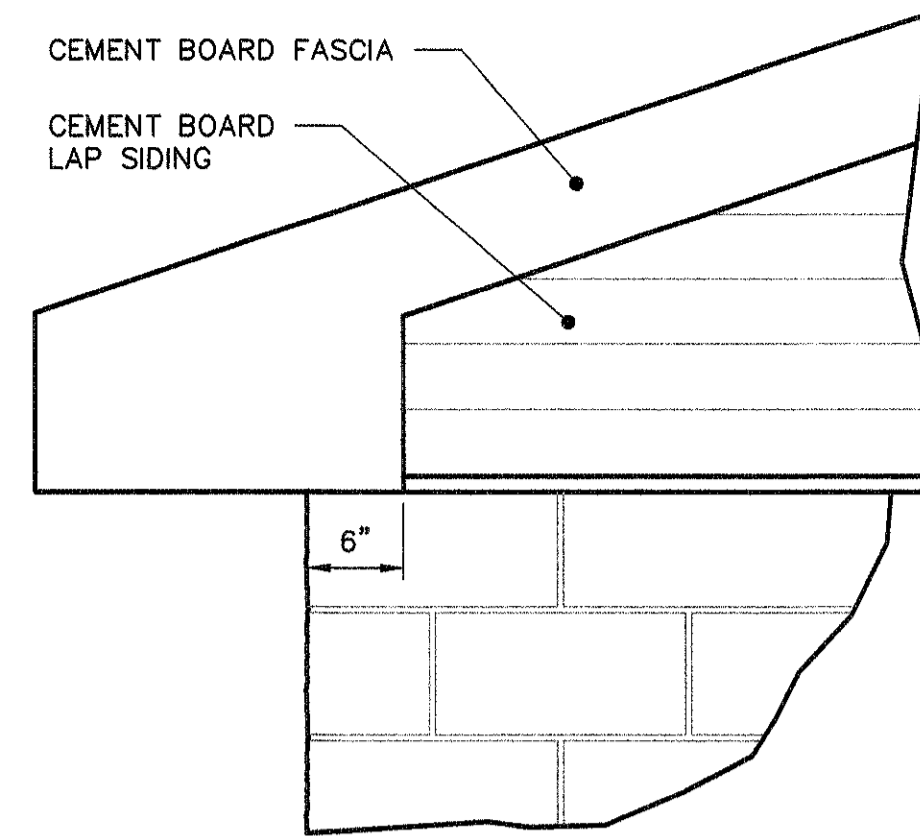


GENERAL MASONRY / ARCHITECTURAL NOTES

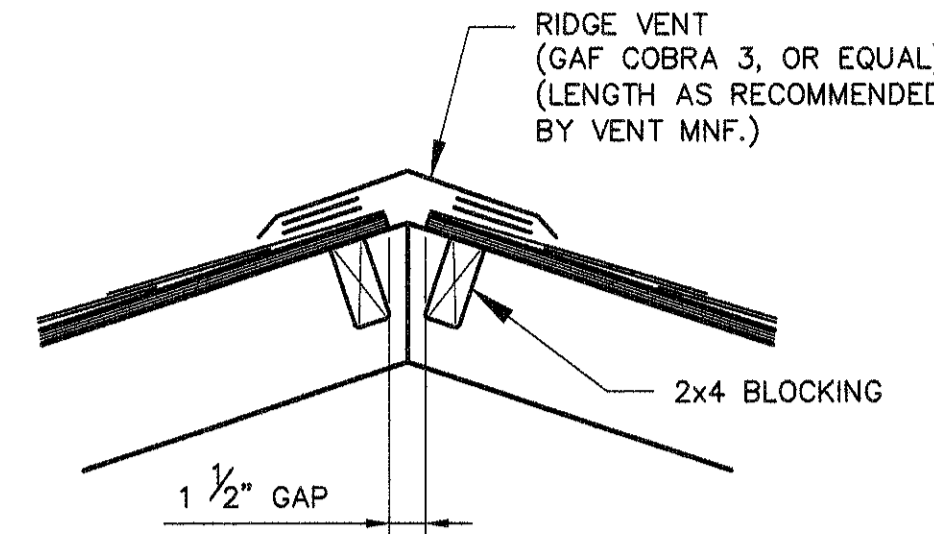
1. SEE "CONSTRUCTION SPECIFICATIONS" SECTION OF THE CONTRACT DOCUMENTS FOR PRODUCT SPECIFICATIONS.



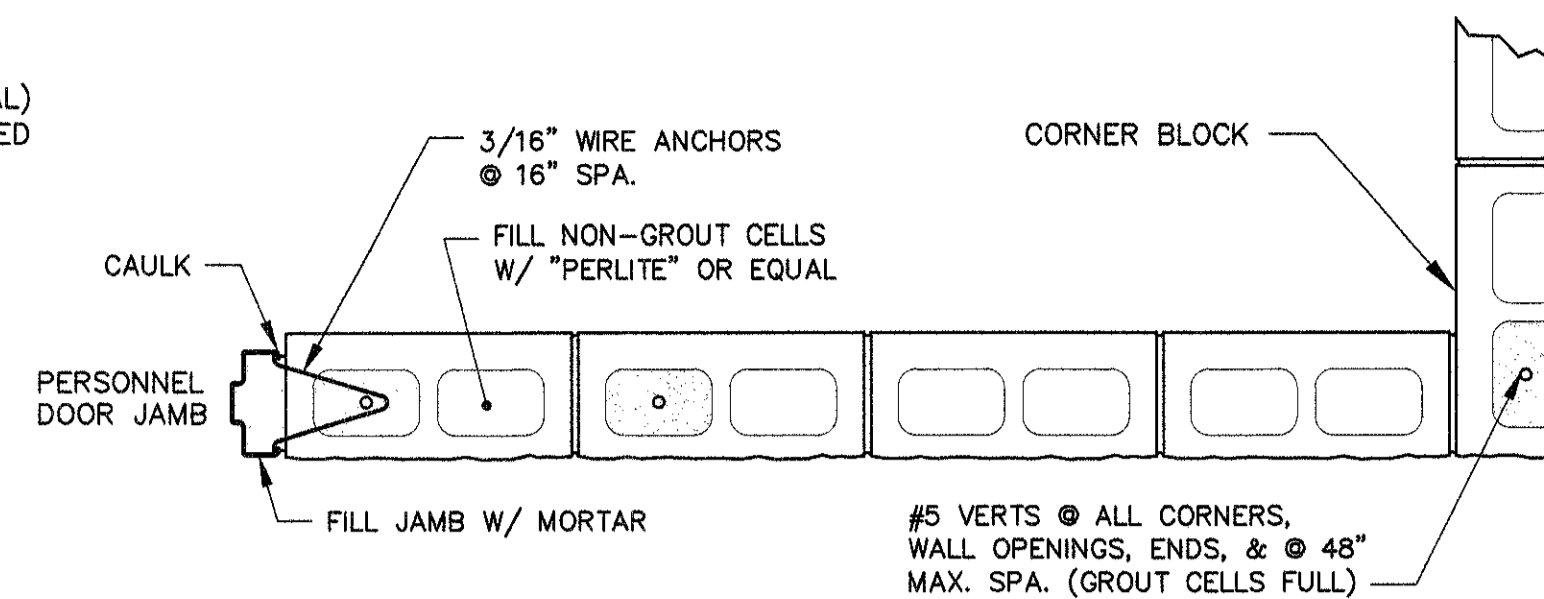
TYPICAL GABLE SECTION
SCALE: N.T.S.



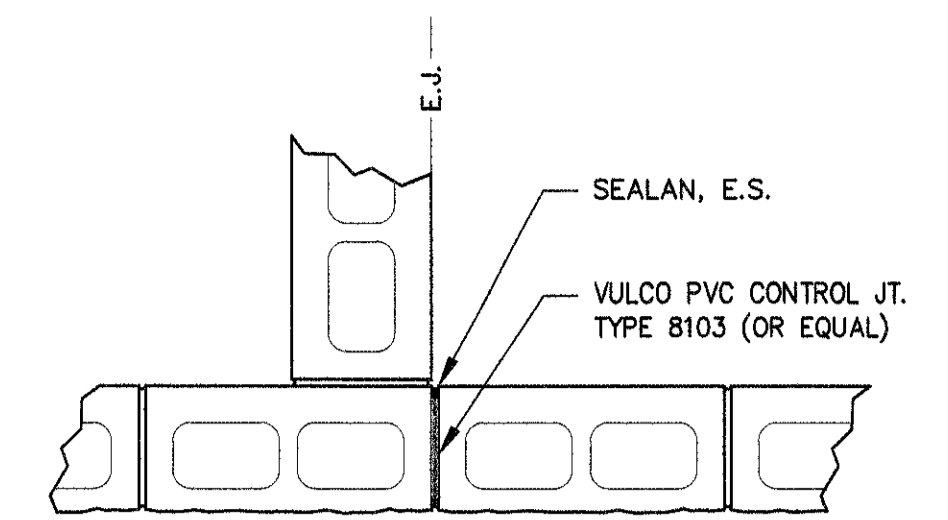
CORNICE RETURN DETAIL
SCALE: N.T.S.



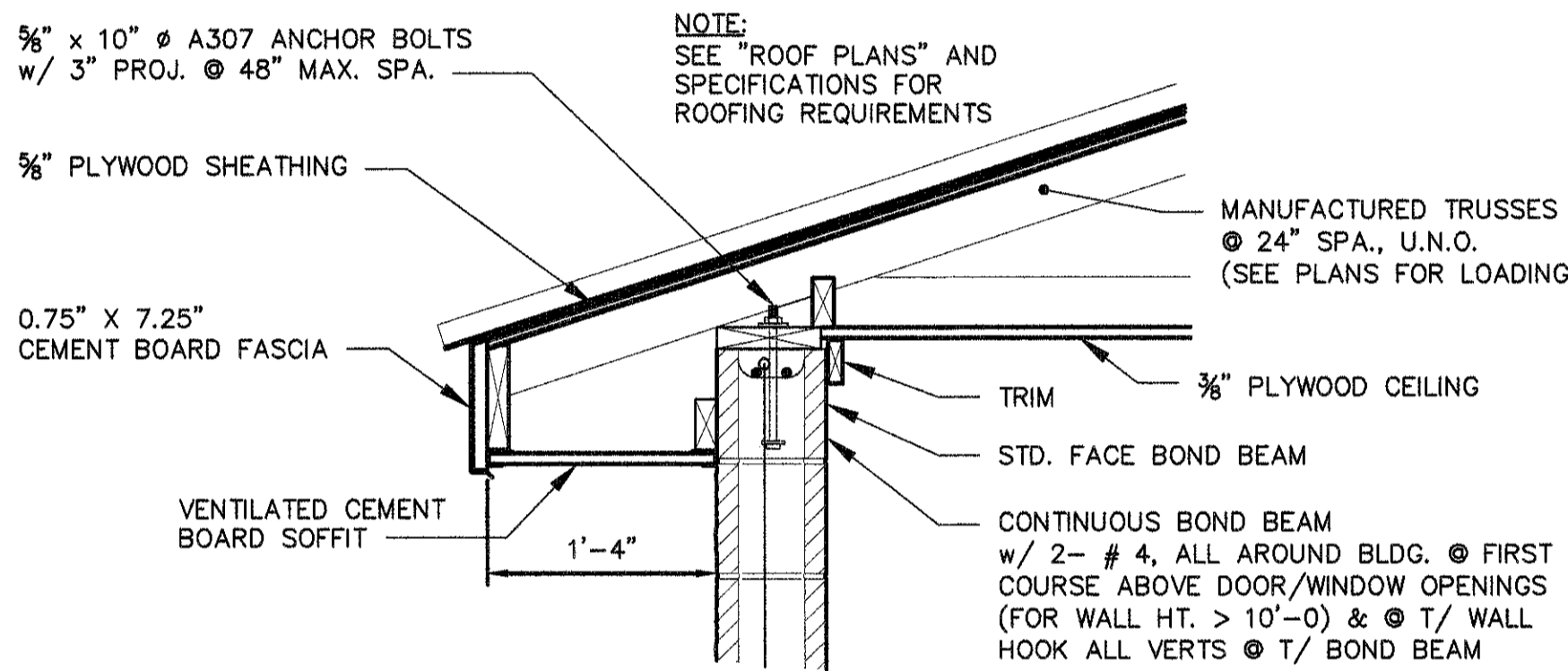
RIDGE VENT DETAIL
SCALE: 1 1/2" = 1'-0"



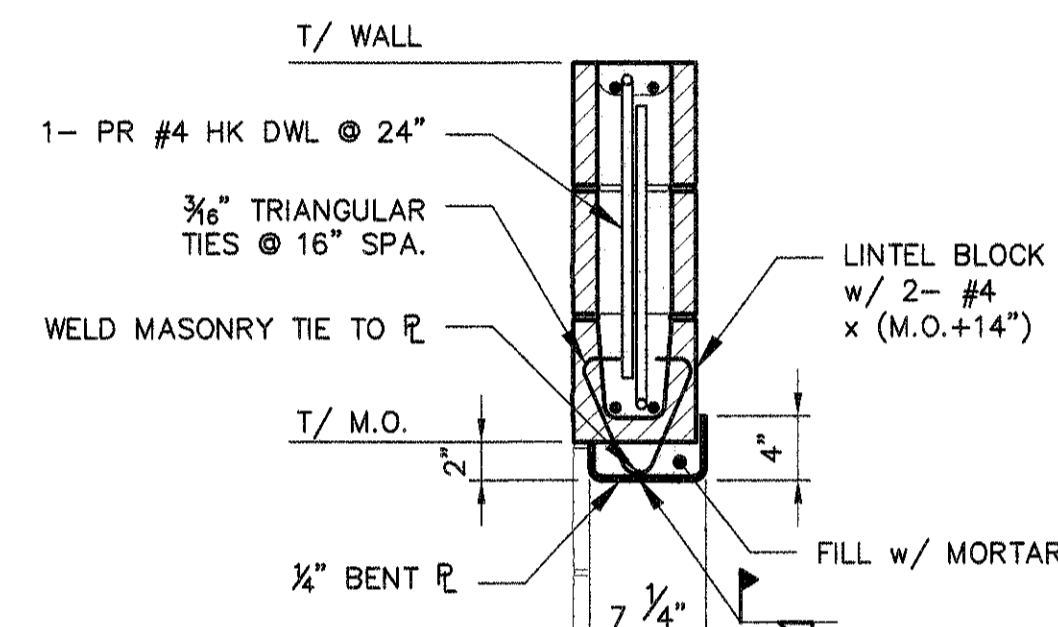
TYPICAL WALL SECTION
SCALE: N.T.S.



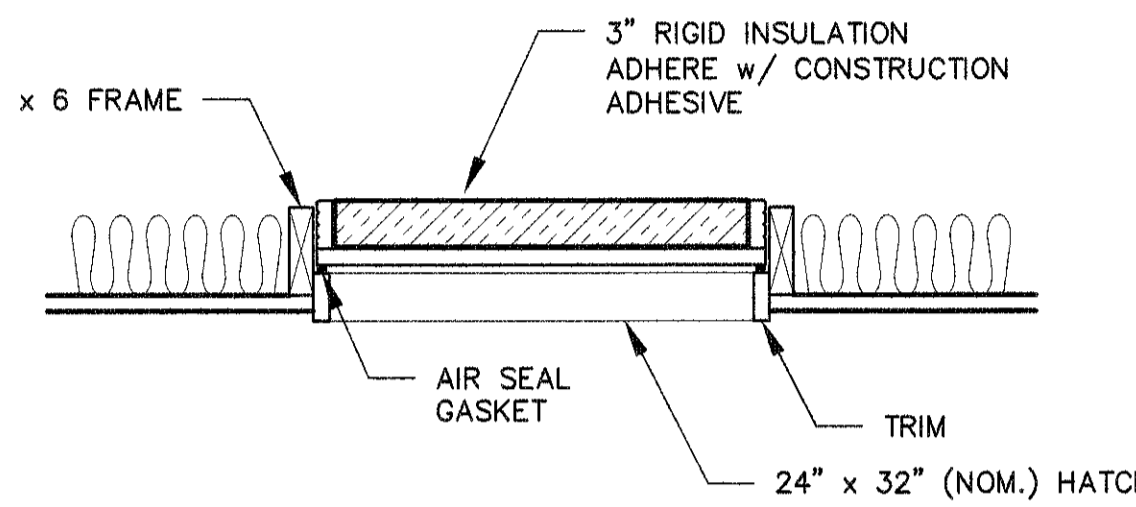
WALL EXPANSION JOINT DETAIL
N.T.S.



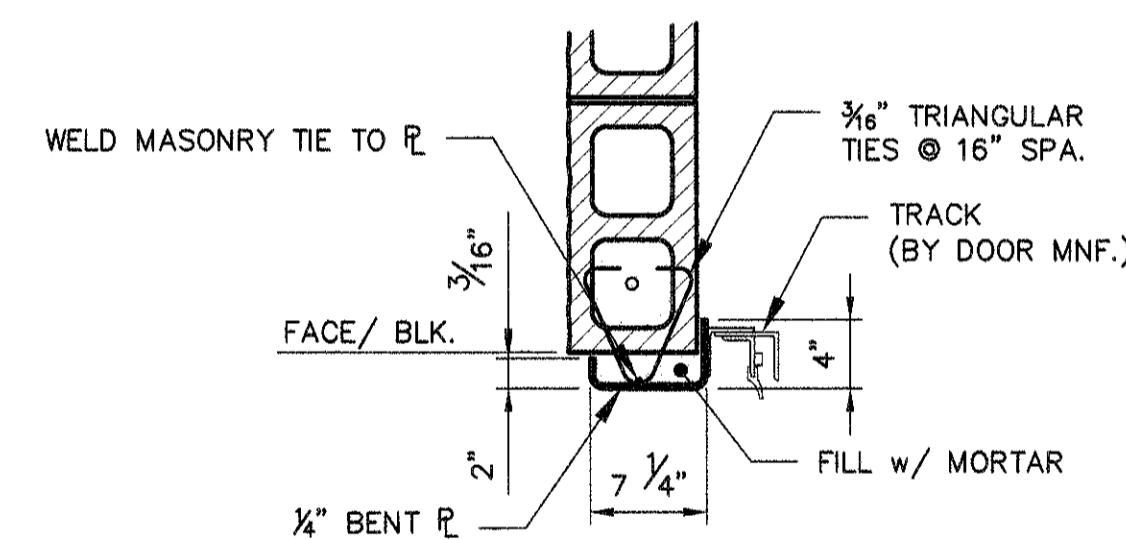
TYPICAL EAVE SECTION
SCALE: N.T.S.



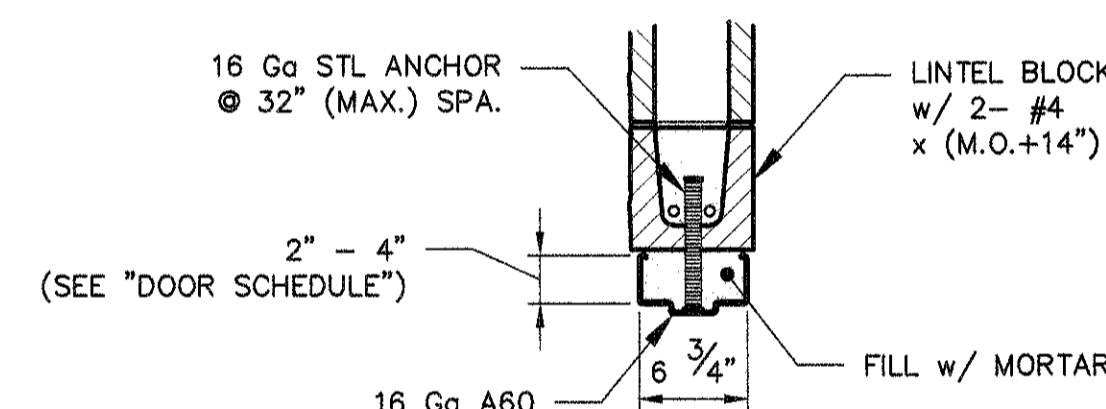
HEADER



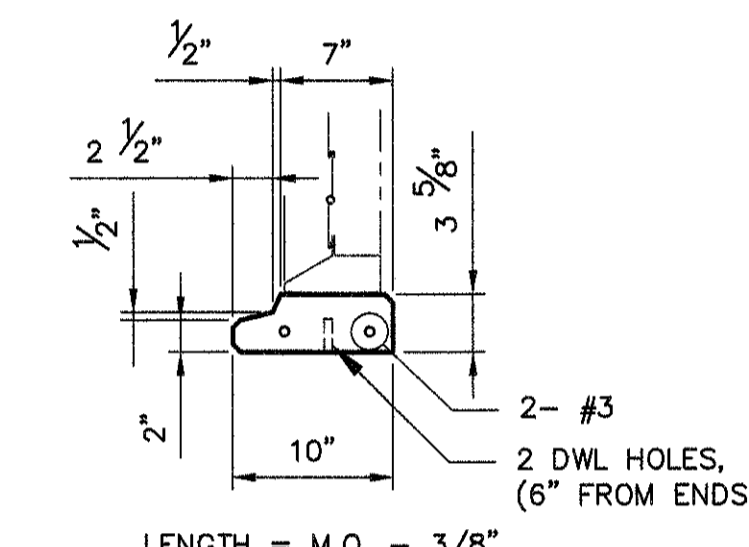
ATTIC SCUTTLE DETAIL
SCALE: N.T.S.



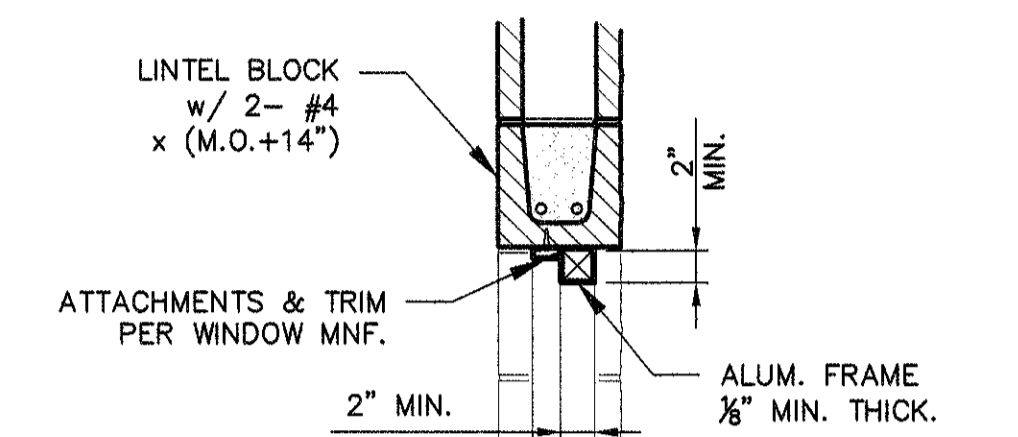
JAMB



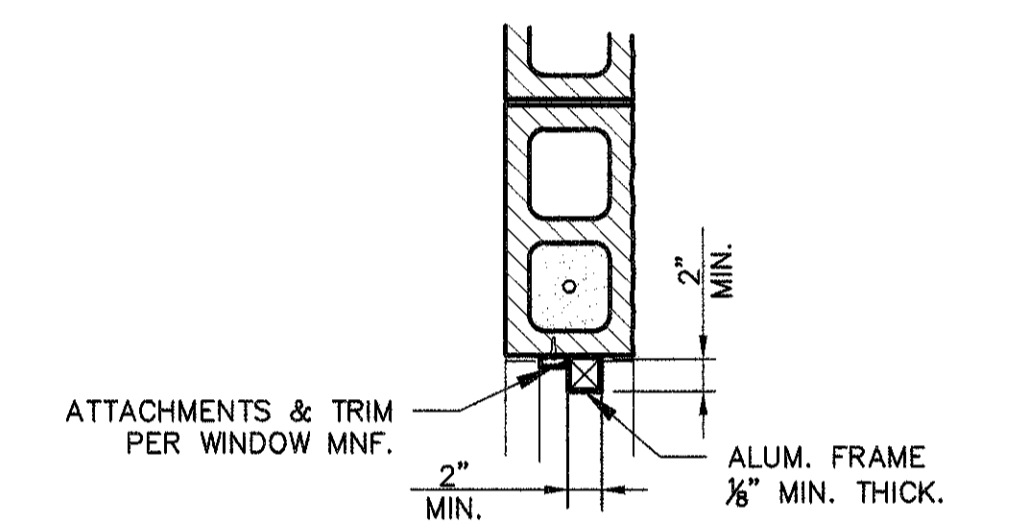
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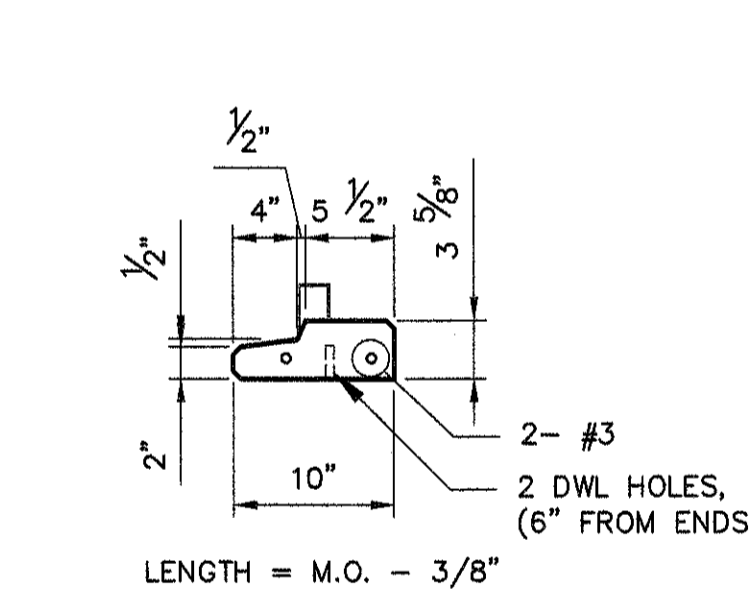
PRECAST CONCRETE SILL @ LOUVER
SCALE: N.T.S.



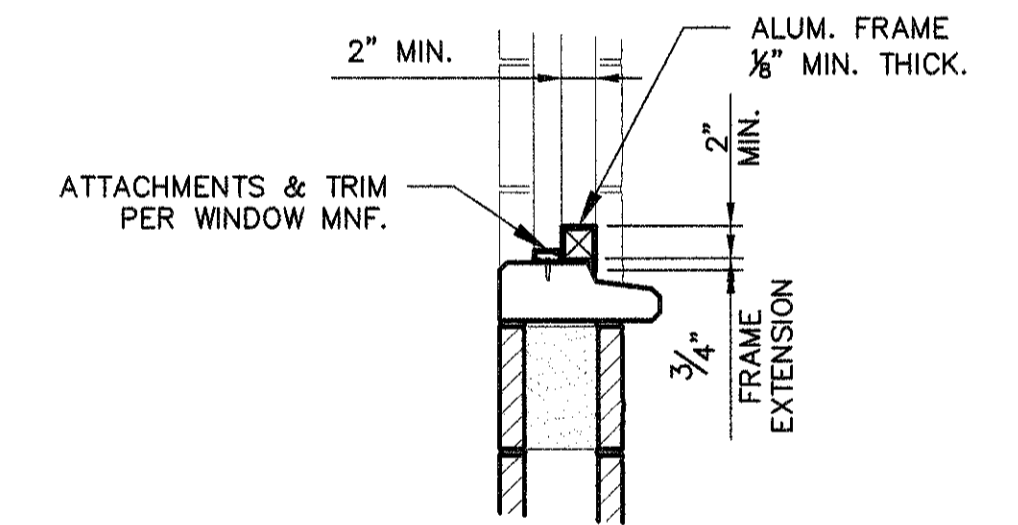
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JAMB

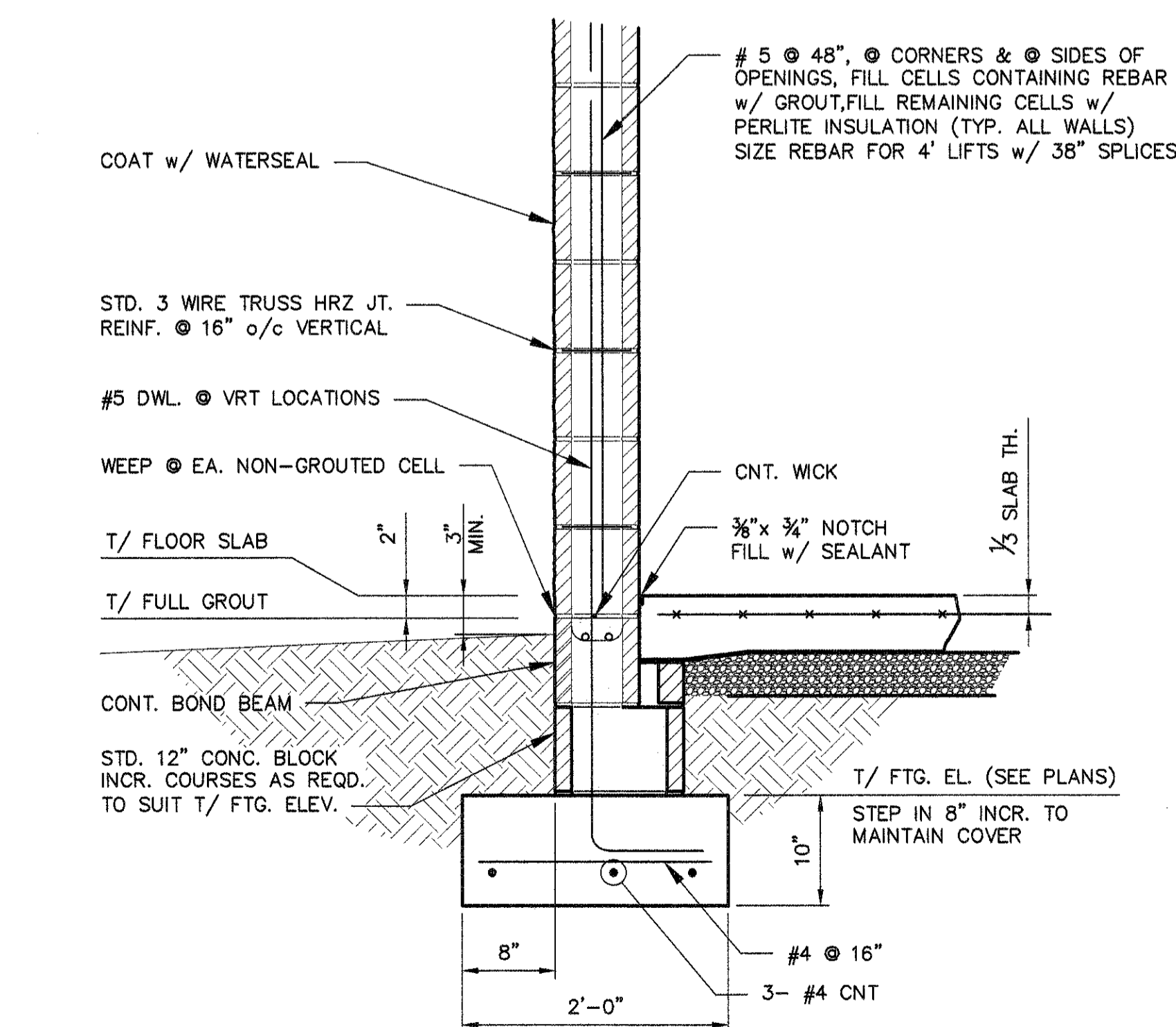


TYPICAL PRECAST CONCRETE SILL
SCALE: N.T.S.

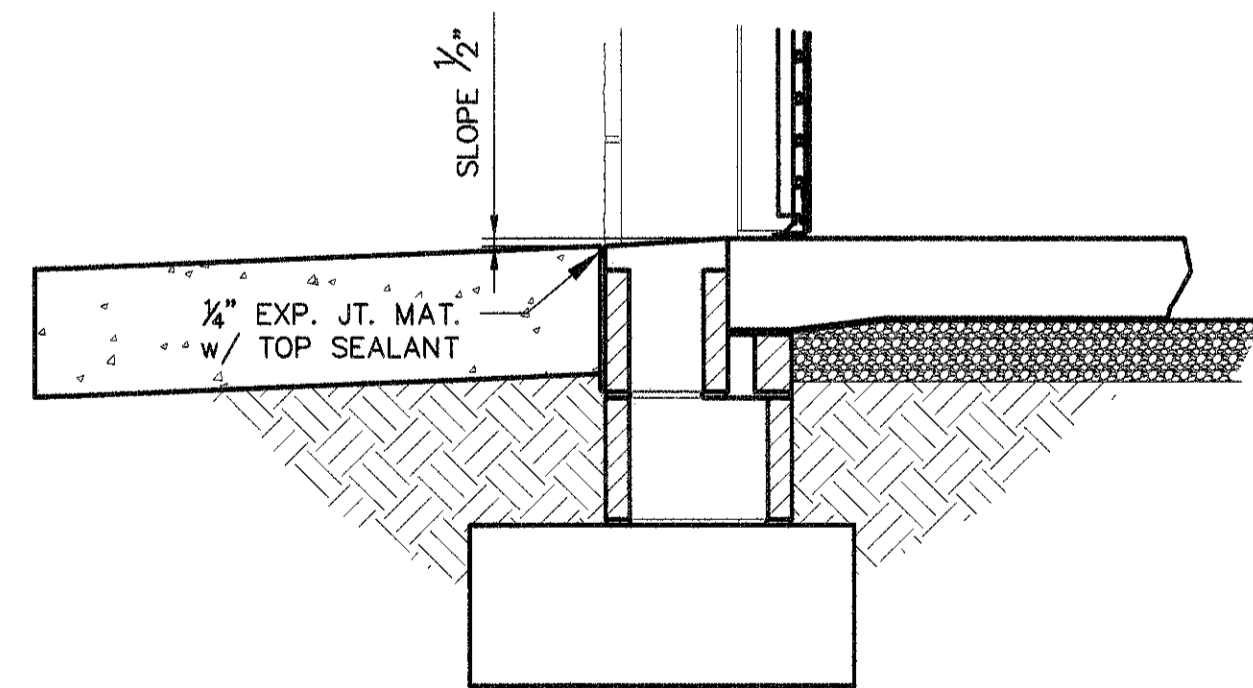


SILL

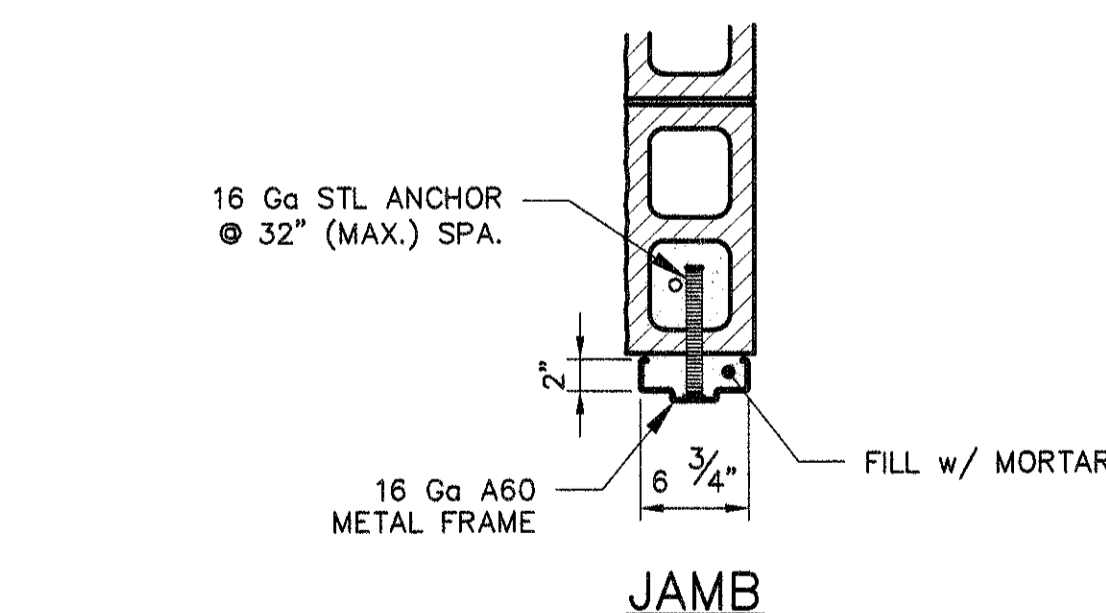
WINDOW OPENING DETAILS
SCALE: N.T.S.



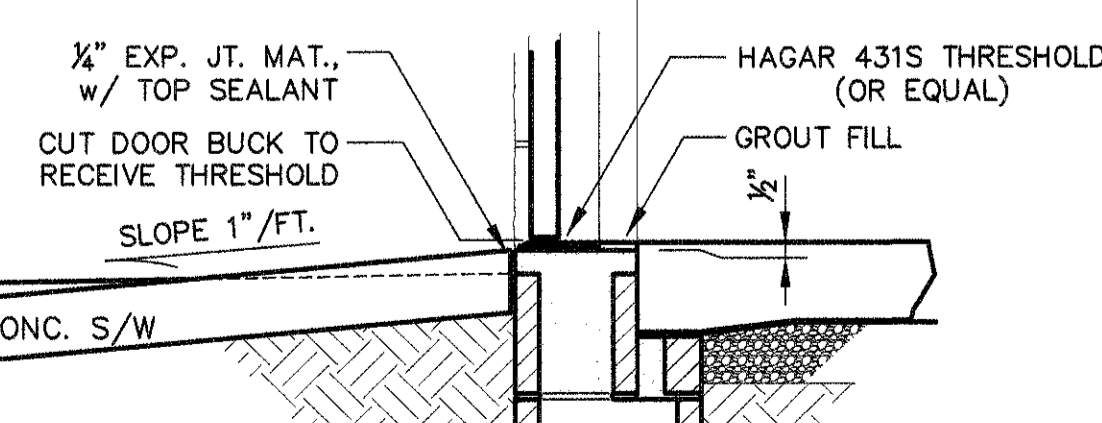
MASONRY EXT. WALL & FOOTING DETAIL
SCALE: N.T.S.



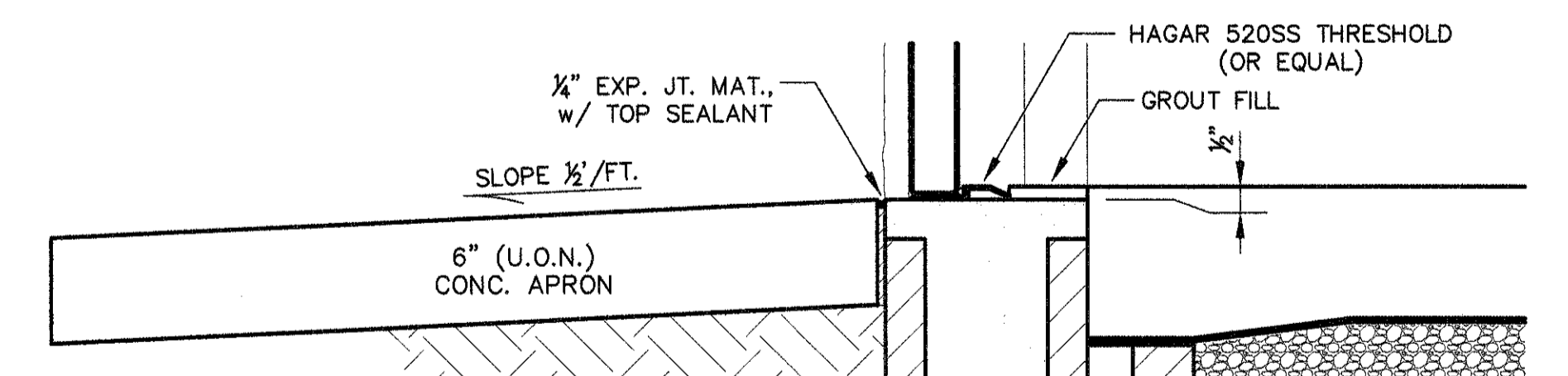
ROLL-UP DOOR OPENING DETAILS
SCALE: N.T.S.



JAMB



PERSONNEL DOOR OPENING DETAILS
SCALE: N.T.S.



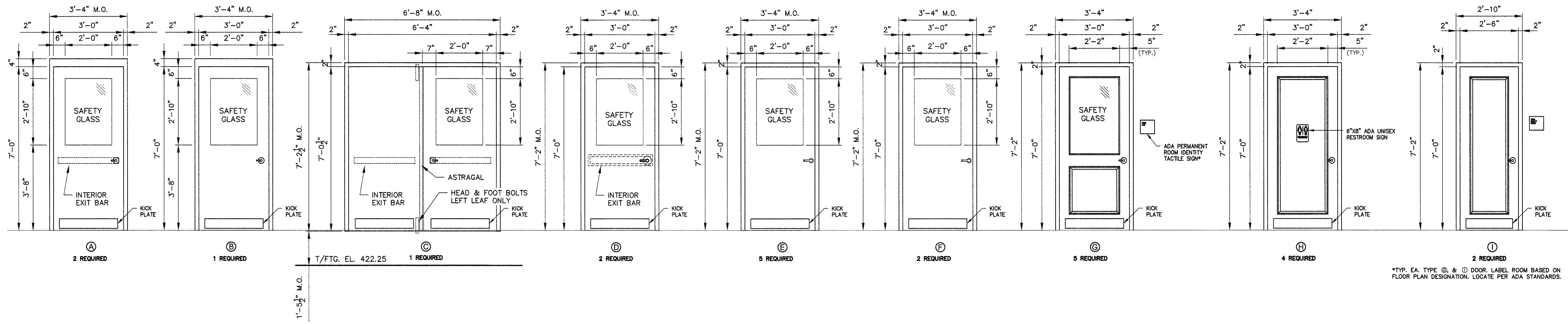
DOUBLE DOOR THRESHOLD DETAIL
N.T.S.



REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		
ARCHITECTURAL & MASONRY DETAILS		
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA
		SHEET 69 OF 77

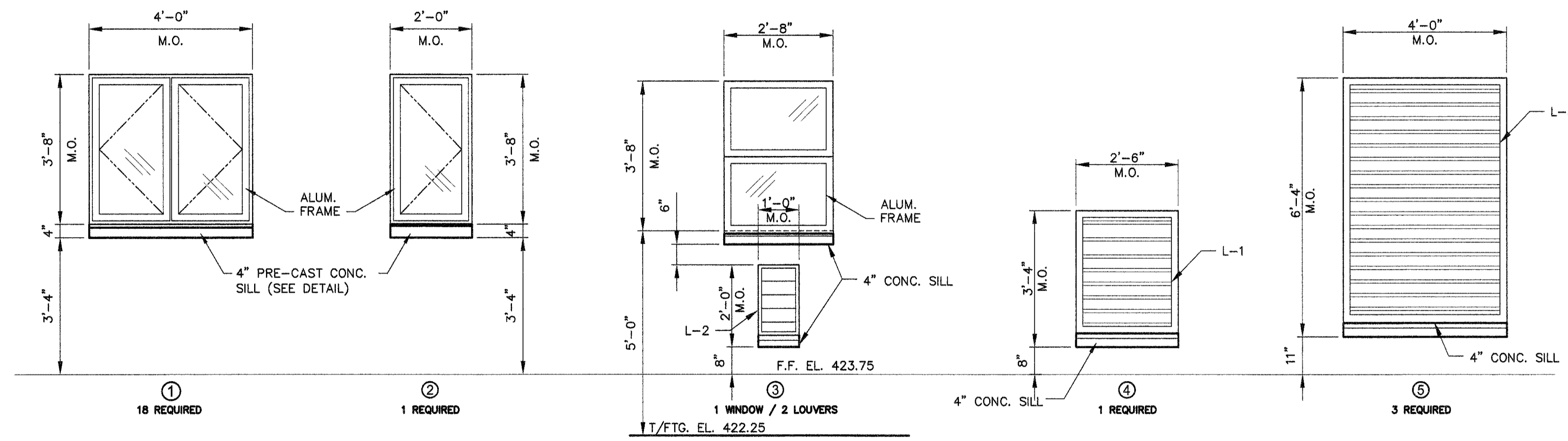
COURTESY

P:\grovetown\141946 wpccp\Drawings\Phase 2\141946 Details.dwg



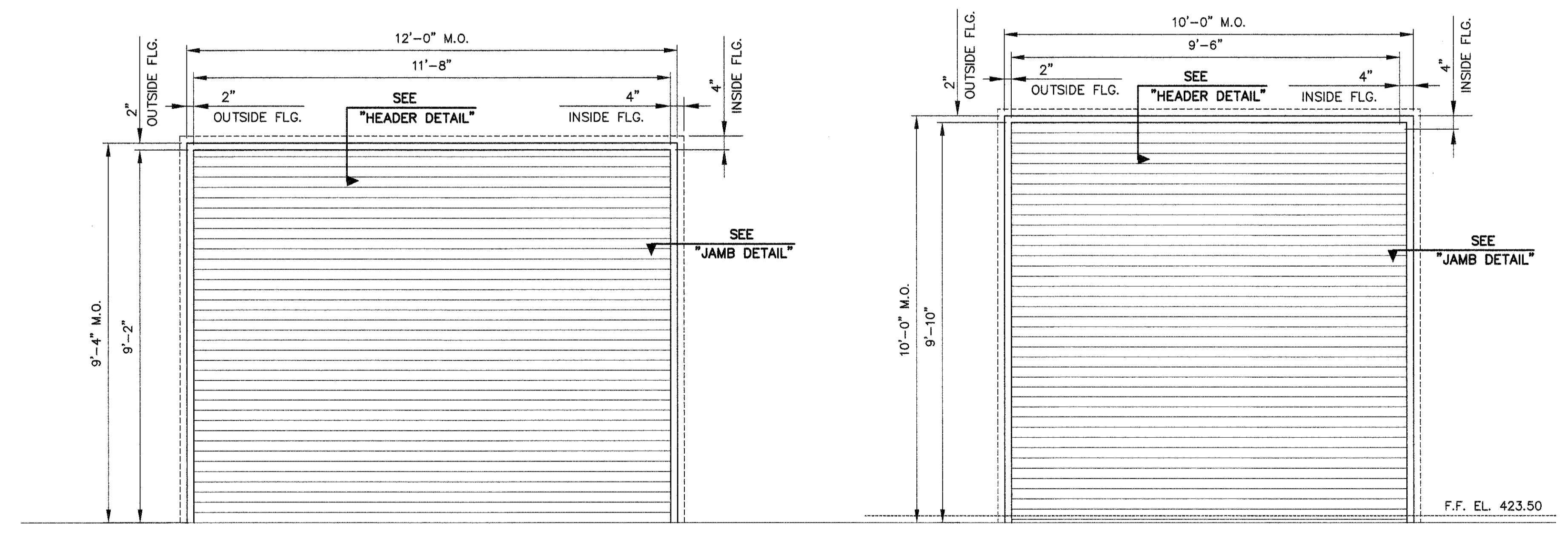
DOOR SCHEDULE

SCALE: 1/2" = 1'-0"



WINDOW & LOUVER SCHEDULE

SCALE: 1/2" = 1'-0"



OVERHEAD DOOR SCHEDULE

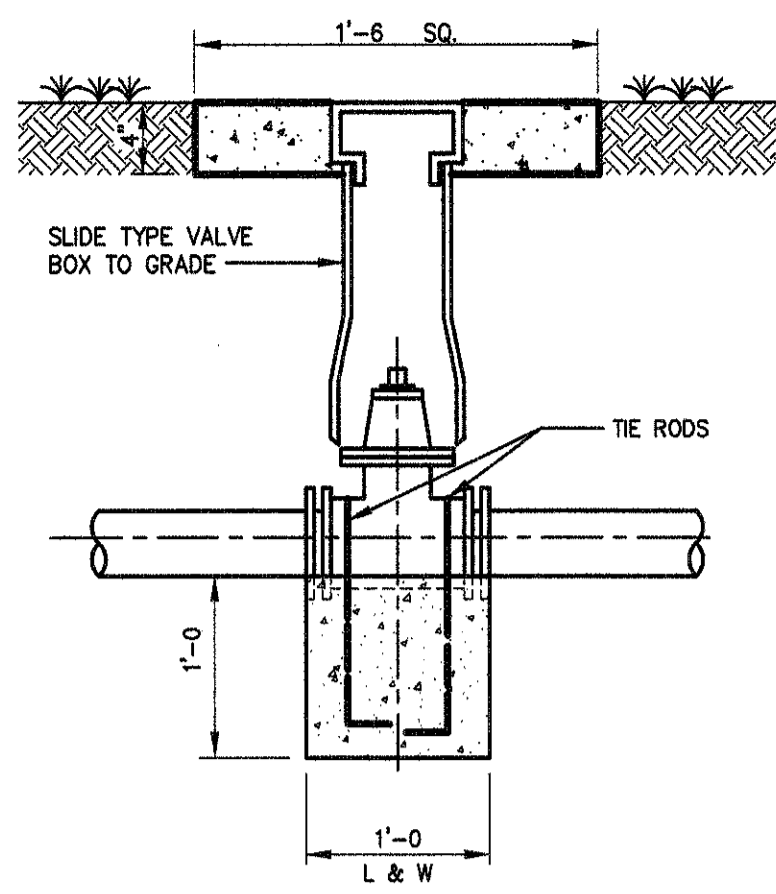
SCALE: 1/2" = 1'-0"

DOOR HARDWARE SCHEDULE					
DOOR	MATERIAL OF CONSTRUCTION	CLOSER	OPERATION	EXIT DEVICE	MISC. HARDWARE
A	FIBERGLASS DOOR & FRAME	DORMA STA 8600, STAINLESS	ENTRANCE LOCK (KEY LOCKS/ UNLOCKS FROM OUTSIDE)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)	SARGENT 8700 SERIES STAINLESS (INSIDE) LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) WEATHERSTRIPPING: HAGER 891SS DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050
B		DORMA STA 8600, STAINLESS	PASSAGE (NO LOCK)	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) WEATHERSTRIPPING: HAGER 891SS DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050
C		DORMA STA 8600, STAINLESS	ENTRANCE LOCK (KEY LOCKS/ UNLOCKS FROM OUTSIDE)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)	SARGENT 8700 SERIES STAINLESS (INSIDE) LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) WEATHERSTRIPPING: HAGER 891SS DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050
D	STEEL DOOR & FRAME	DORMA 8618	ENTRANCE LOCK (KEY LOCKS/ UNLOCKS FROM OUTSIDE)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)	SARGENT 8700 SERIES STAINLESS (INSIDE) LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) WEATHERSTRIPPING: HAGER 891SS DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050 *KEYPAD DOOR LOCK
E		DORMA 8618	ENTRANCE LOCK (KEY LOCKS/ UNLOCKS FROM OUTSIDE)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) THRESHOLD: HAGER 431S WEATHERSTRIPPING: HAGER 891SS DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050 *KEYPAD DOOR LOCK
F	MDF WOOD DOOR W/ STEEL FRAME	DORMA 8618	PASSAGE (NO LOCK)	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050 *KEYPAD DOOR LOCK
G		NONE	PASSAGE (NO LOCK)*	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050 * REMOTE ACCESS KEYPAD
H		NONE	PRIVACY OPERATION, (KEY UNLOCKS FROM OUTSIDE/ INSIDE ALWAYS UNLOCKED)*	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050
I	MDF WOOD DOOR W/ STEEL FRAME	NONE	STOREROOM (KEY FROM OUTSIDE, LOCKED AT ALL TIMES)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050
J		NONE	STOREROOM (KEY FROM OUTSIDE, LOCKED AT ALL TIMES)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)	LEVER	HANDLESETS: SARGENT MORTISE LOCK 8200 HINGES: HAGER 1199 STAINLESS (3 EA. DOOR) DOOR SILENCERS: HAGER 307D KICK PLATE: ASSA ABL0Y K1050

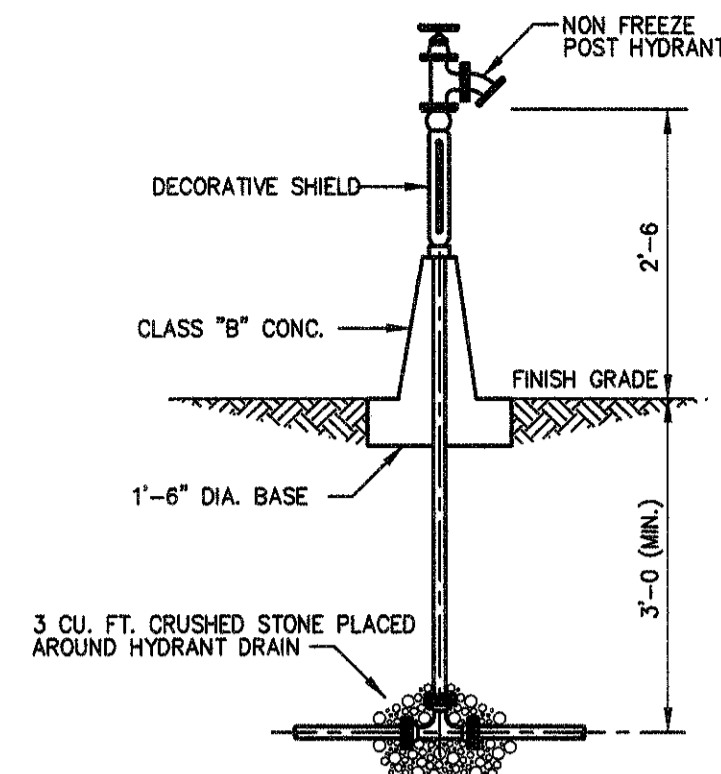
- NOTES:**
- HEAD OPERATOR AND DIRECTOR'S OFFICE SHALL HAVE OFFICE OPERATION, (KEY UNLOCKS FROM OUTSIDE/ INSIDE ALWAYS UNLOCKS OUTSIDE TRIM)
 - BLOWER STORAGE AREA WILL HAVE SHALL HAVE STOREROOM OPERATION, (KEY FROM OUTSIDE, LOCKED AT ALL TIMES)(PUSH BUTTON LOCKS/ UNLOCKS FROM INSIDE)
 - SUPPLY AND INSTALL WALL STOPS FOR ALL DOORS OPENING TO A WALL HAGER MODEL 255W, IVES WS11X OR EQUAL

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		WINDOW & DOOR SCHEDULES	
DRAWN		SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
SHEET		70 OF 77	

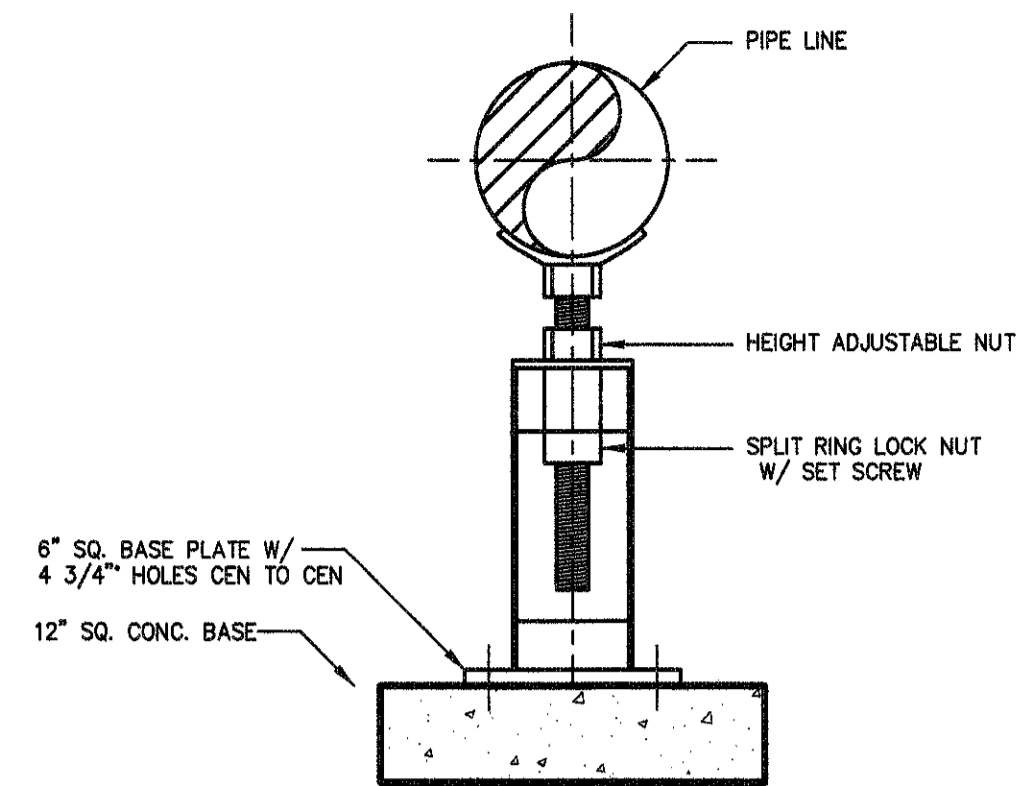




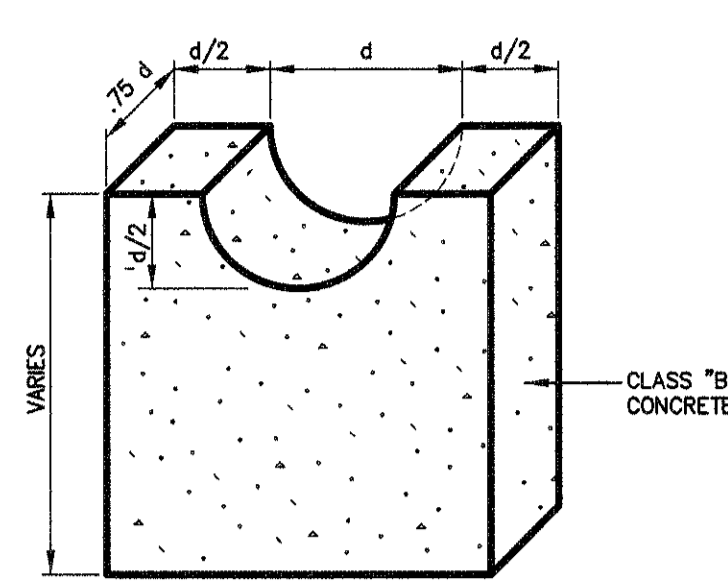
VALVE ANCHOR
N.T.S.



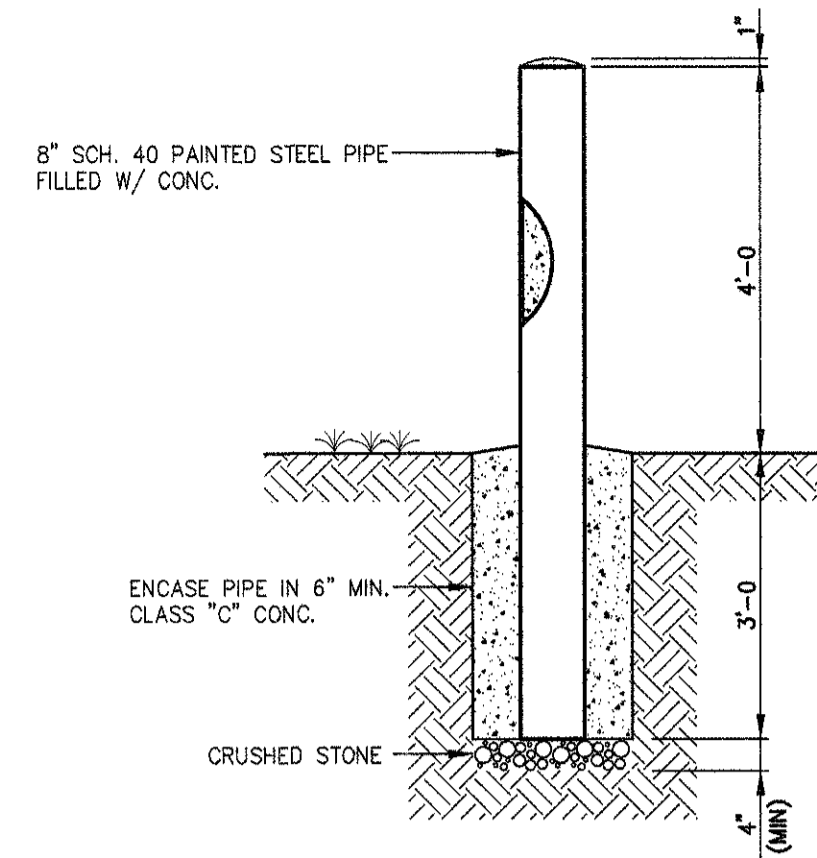
YARD HYDRANT DETAIL
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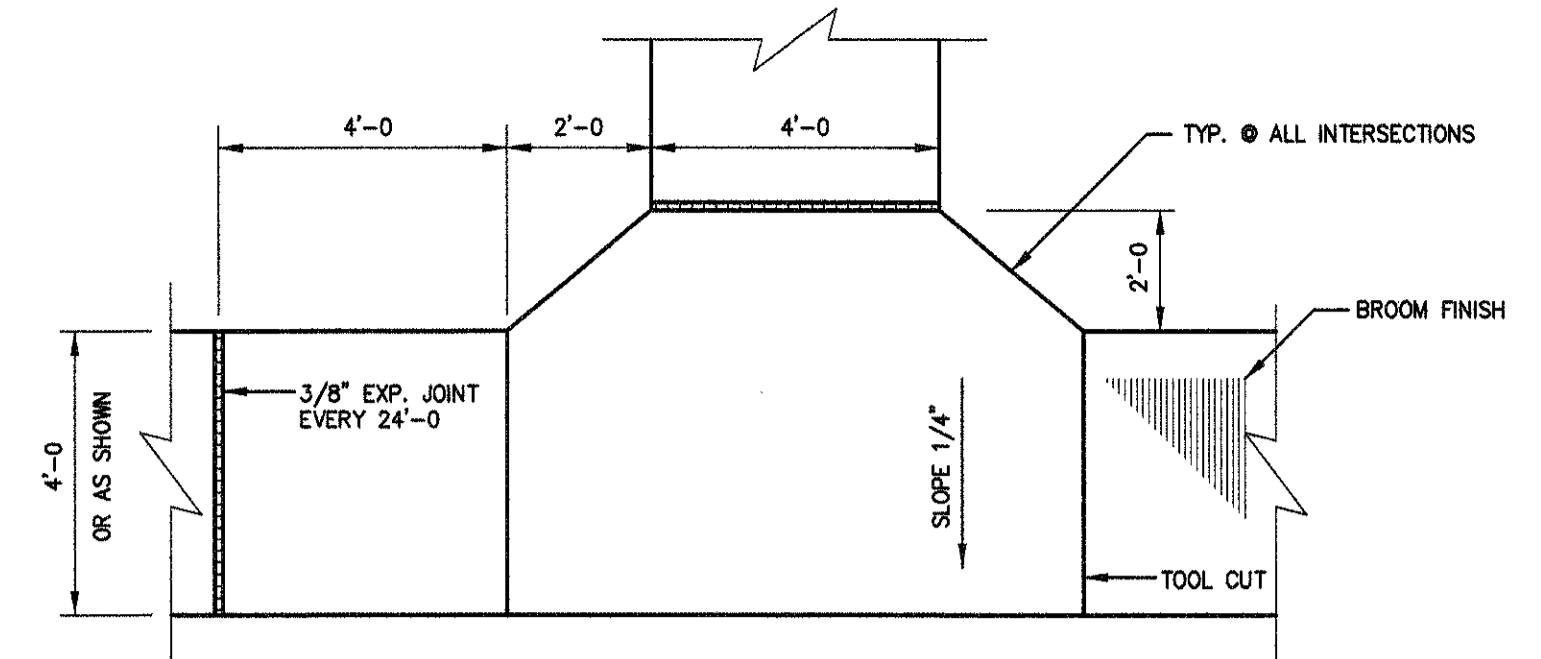
ADJUSTABLE PIPE SUPPORT DETAIL
N.T.S.



PIPE SUPPORT DETAIL
N.T.S.

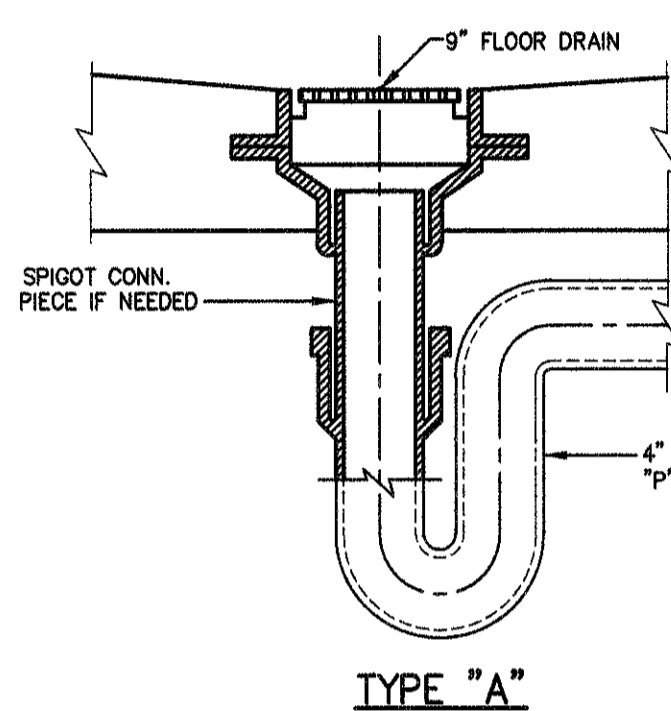


BOLLARD DETAIL
N.T.S.

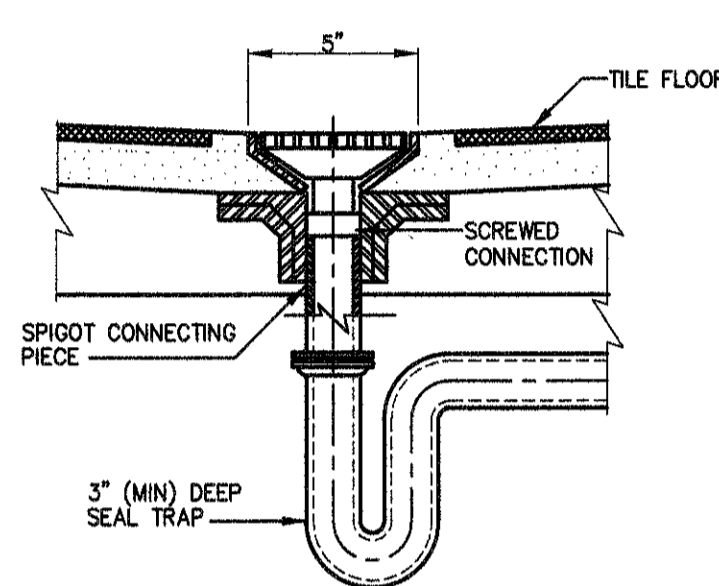


NOTES:
1. WALKS TO BE 4" THICK
2. PROVIDE EXPANSION JOINTS AT INTERSECTIONS OF WALK WITH OTHER STRUCTURES & AT CHANGE OF DIRECTIONS.

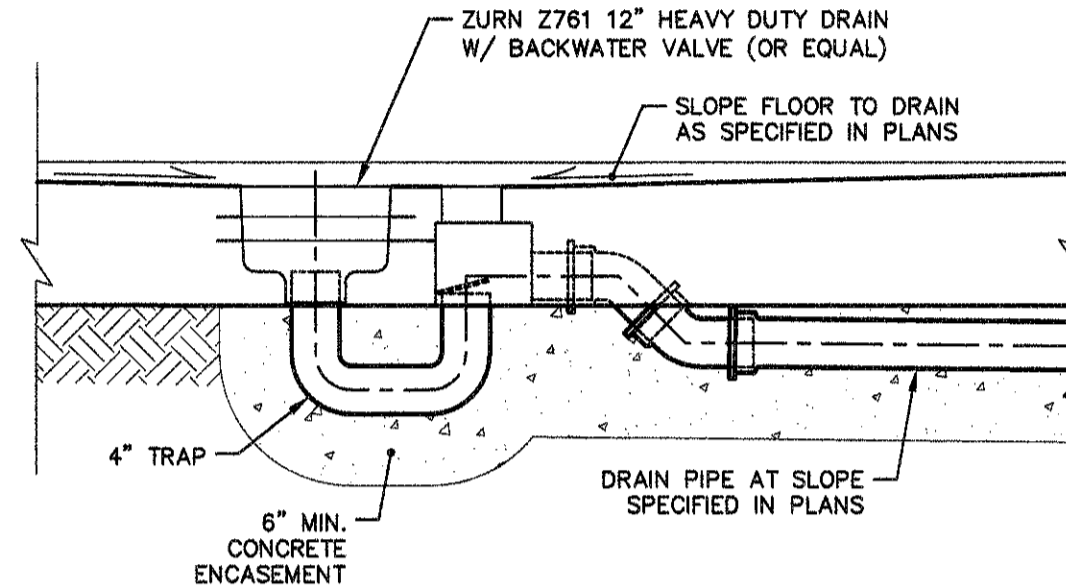
SIDEWALK DETAIL
N.T.S.



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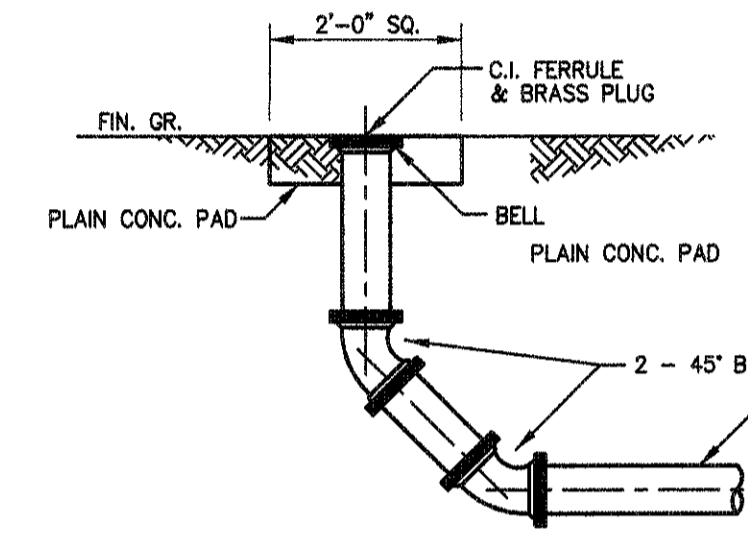


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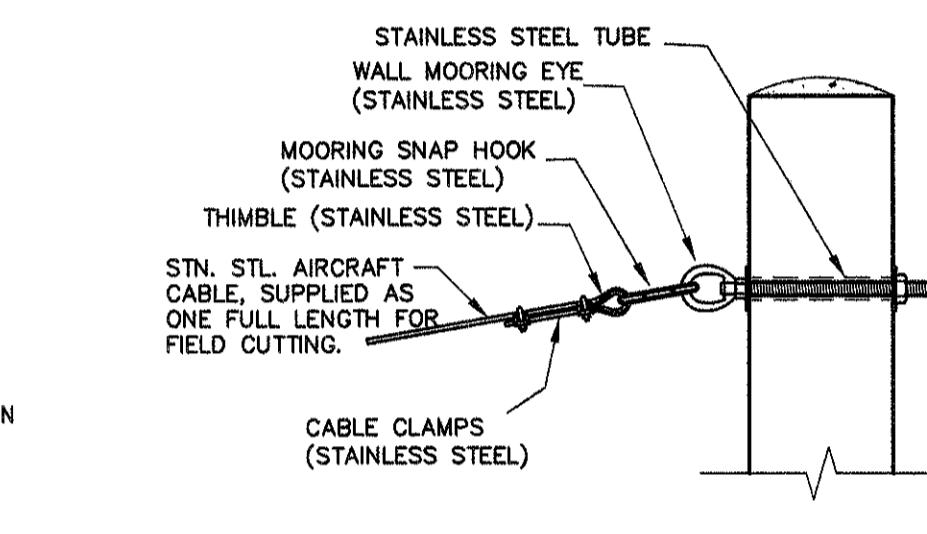


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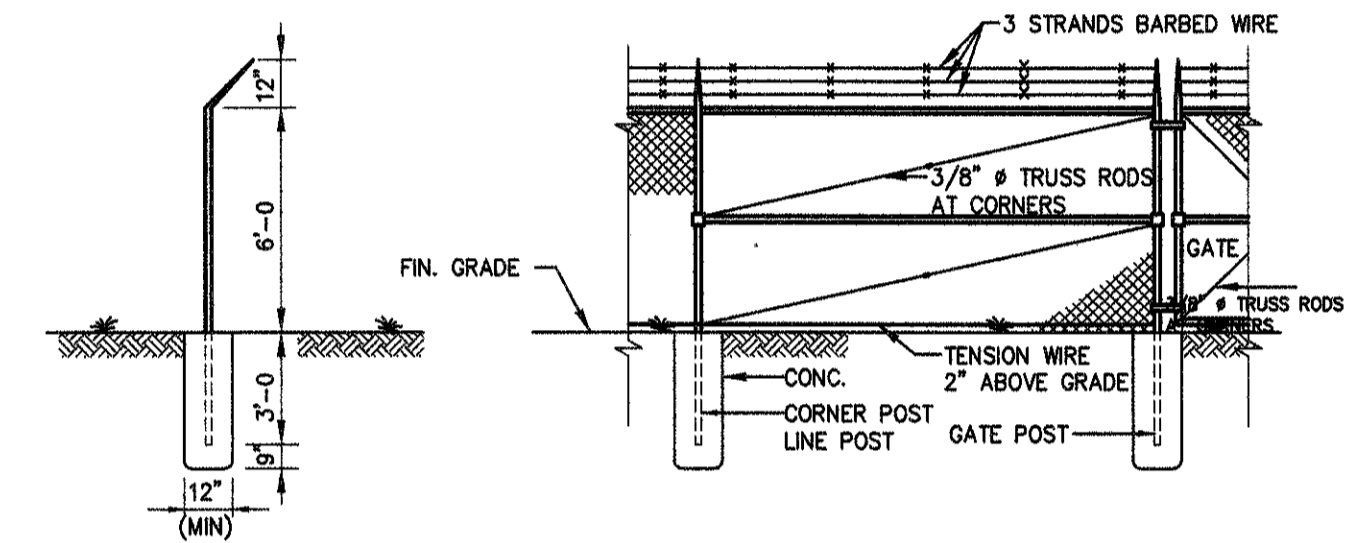
FLOOR DRAIN
N.T.S.



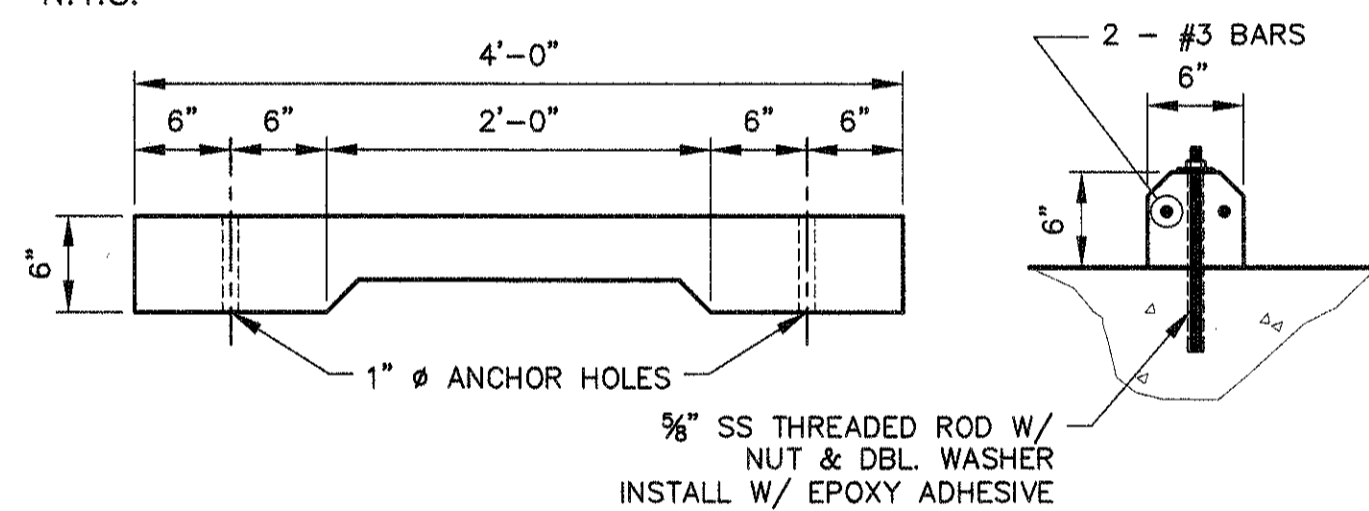
CLEANOUT DETAIL
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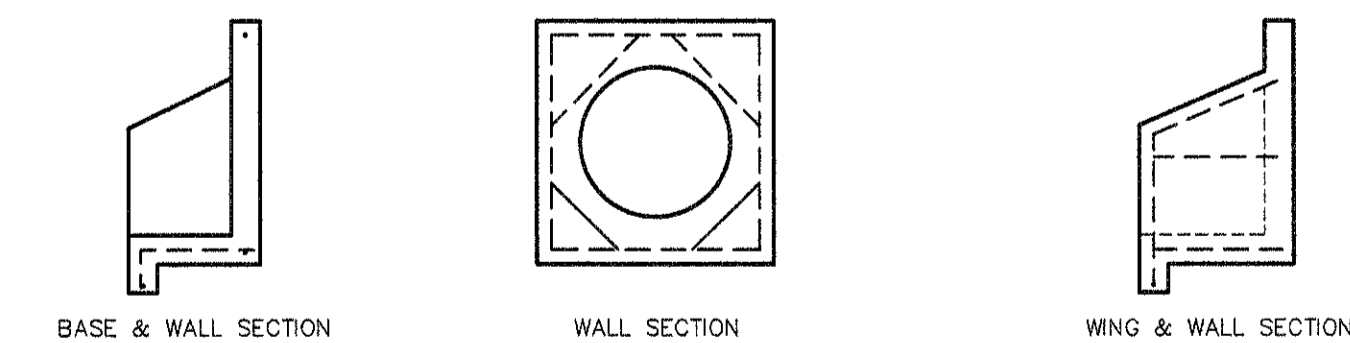
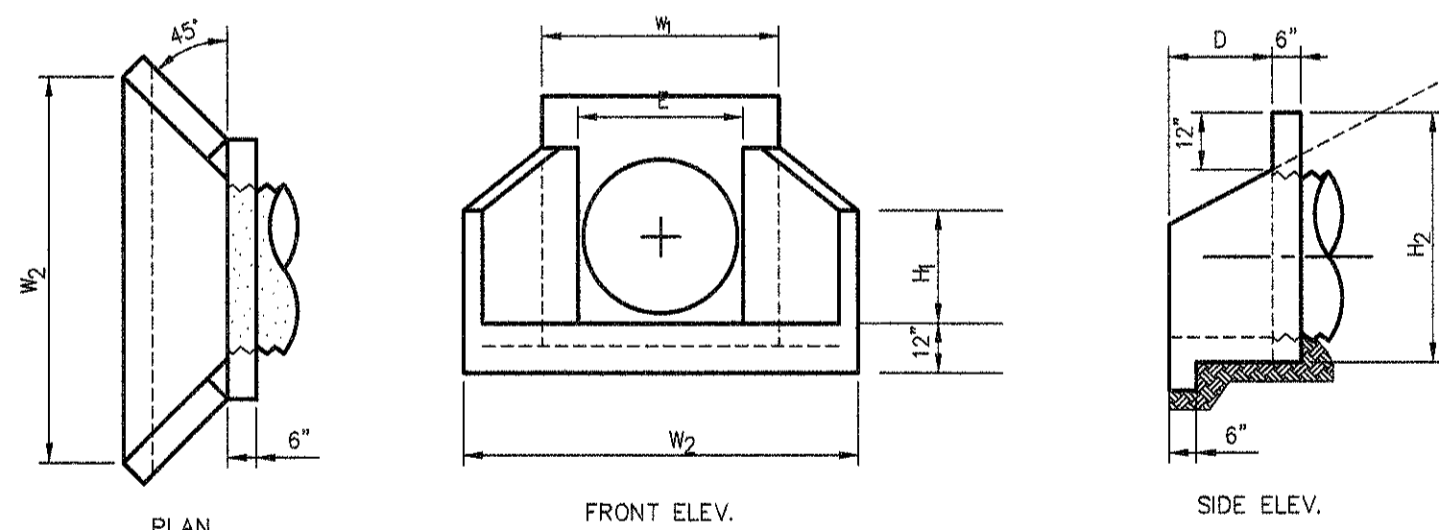
MAINTENANCE CABLE DETAIL
N.T.S.



FENCE DETAIL
N.T.S.



CONCRETE WHEEL STOP DETAIL
SCALE: 1" = 1'-0"

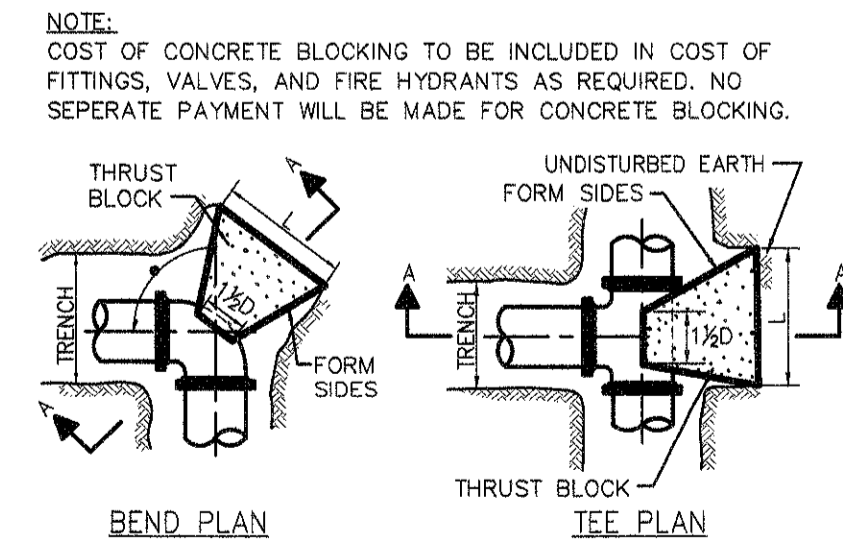


HEADWALL DIMENSIONS (METAL PIPE)							
USE NEXT LARGEST SIZE FOR CONCRETE PIPE							
INSIDE DIA. PIPE	W ₁	W ₂	H ₁	H ₂	D	E	WT. (LBS.)
12", 15", 18"	3'-2"	4'-10"	1'-3"	3'-2"	1'-3"	1'-9"	1550
21", 24"	3'-8"	6'-1"	1'-6"	3'-8"	1'-6"	2'-3"	2100
30"	4'-2"	7'-2"	2'-0"	4'-2"	1'-10"	2'-9"	2850
36"	4'-8"	8'-4"	2'-4"	4'-8"	2'-2"	3'-3"	3700
42", 48"	5'-8"	10'-10"	3'-3"	5'-8"	2'-11"	4'-3"	5600
54", 60"	6'-8"	11'-11"	3'-8"	6'-8"	3'-4"	5'-3"	7500

ALL CONCRETE SHALL BE 4000 P.S.I. REINFORCEMENT STEEL SHALL BE 1/2" Ø OF INTERMEDIATE GRADE PLACE REINF. 2" MIN. CLEARANCE CHAMFER ALL EXPOSED EDGES 1/4"

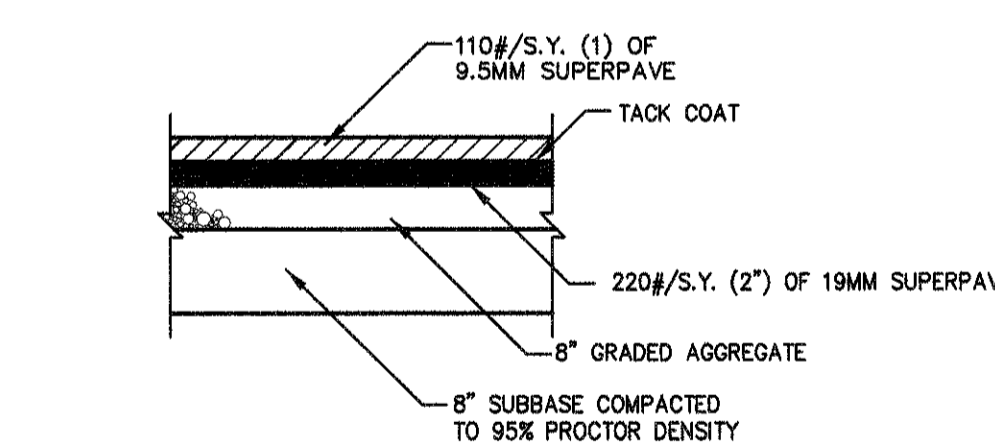
REINFORCED CONCRETE HEADWALL
N.T.S.

PIPE SIZE	TEES & PLUGS			BENDS		
	Q=22-1/2"	Q=45"	Q=90"	Q=22-1/2"	Q=45"	Q=90"
4"	1'-0"	1'-3"	8"	1'-0"	1'-2"	1'-2"
6"	1'-6"	1'-11"	1'-0"	1'-2"	1'-11"	1'-8"
8"	2'-0"	2'-7"	1'-2"	1'-9"	1'-6"	2'-2"
10"	2'-6"	3'-2"	1'-4"	2'-4"	1'-10"	3'-4"
12"	3'-0"	3'-10"	1'-8"	2'-8"	2'-2"	4'-0"
16"	4'-0"	5'-11"	2'-3"	3'-5"	2'-11"	5'-4"
24"	5'-11"	7'-8"	3'-5"	4'-4"	5'-0"	12'-3"

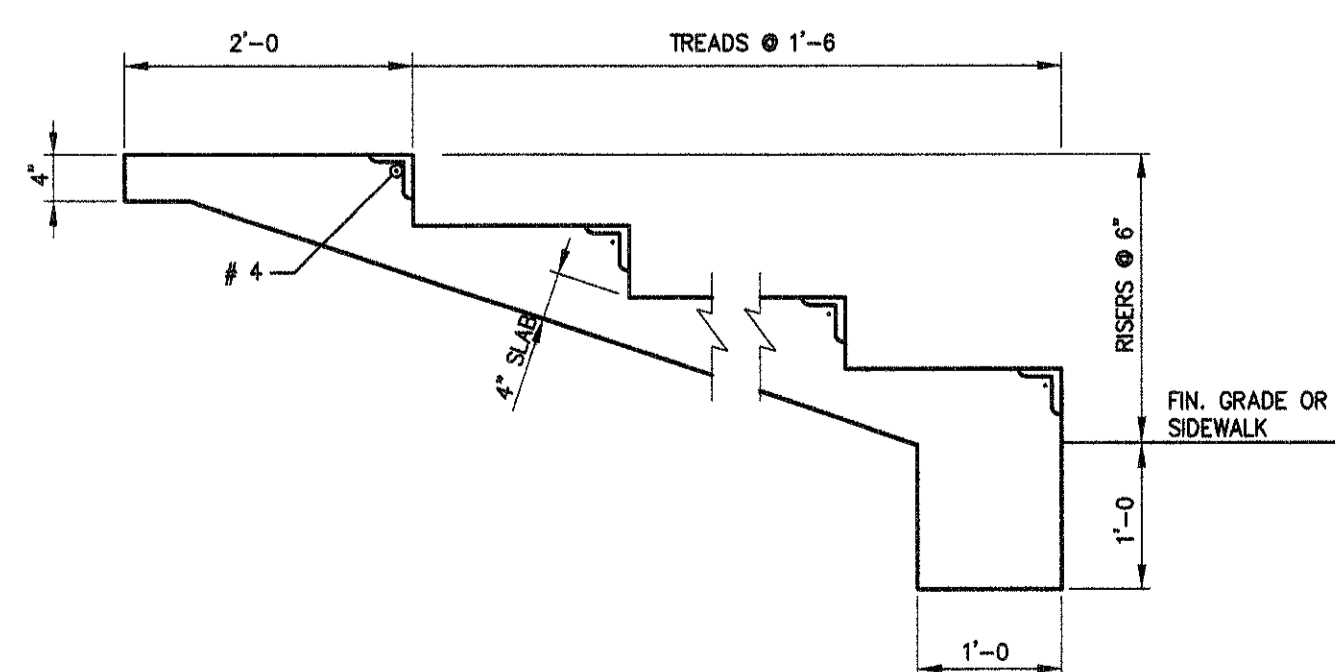


NOTE:
1. THRUST BLOCKING TO BE CLASS "B" CONCRETE.
2. THESE DIMENSIONS WERE CALCULATED USING A SOIL BEARING CAPACITY OF 1500 PSF IF CAPACITY IS FOUND TO BE LESS THAN 1500 PSF THE DIMENSIONS SHALL BE REVISED ACCORDING TO THE ENGINEER.
3. DIMENSIONS TO BE STRICTLY ADHERED TO.
4. BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.
5. DESIGN PRESSURE 4" THRU 24" 150 P.S.I.
6. ALL BOLTS TO REMAIN ACCESSIBLE. DO NOT COVER WITH CONCRETE.

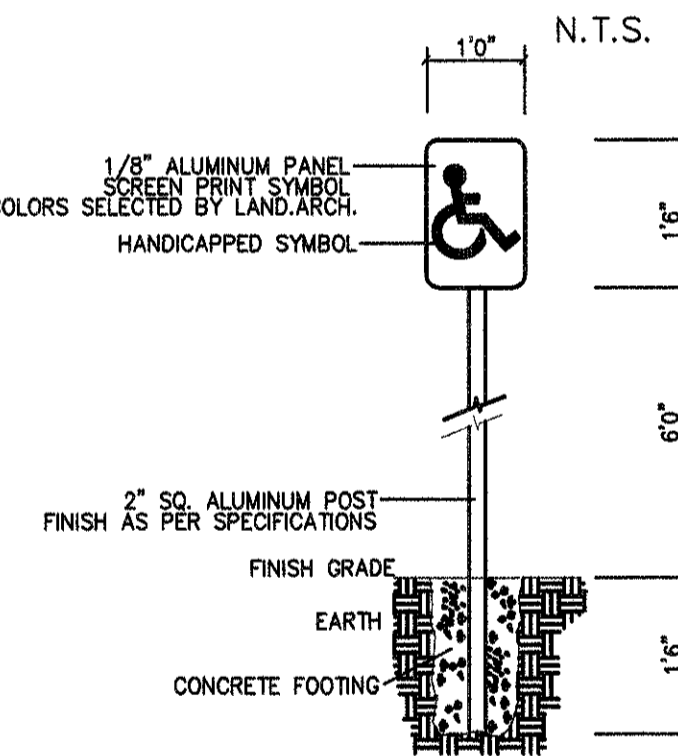
CONCRETE BLOCKING DETAILS
N.T.S.



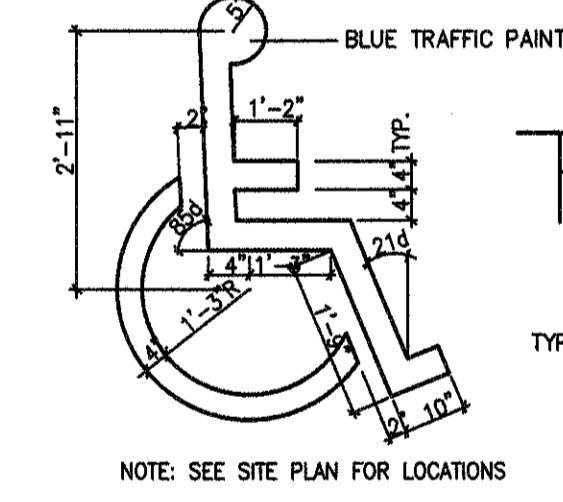
HEAVY DUTY ASPHALT PAVEMENT
N.T.S.



TYPICAL CONCRETE YARD STEP DETAIL
N.T.S.

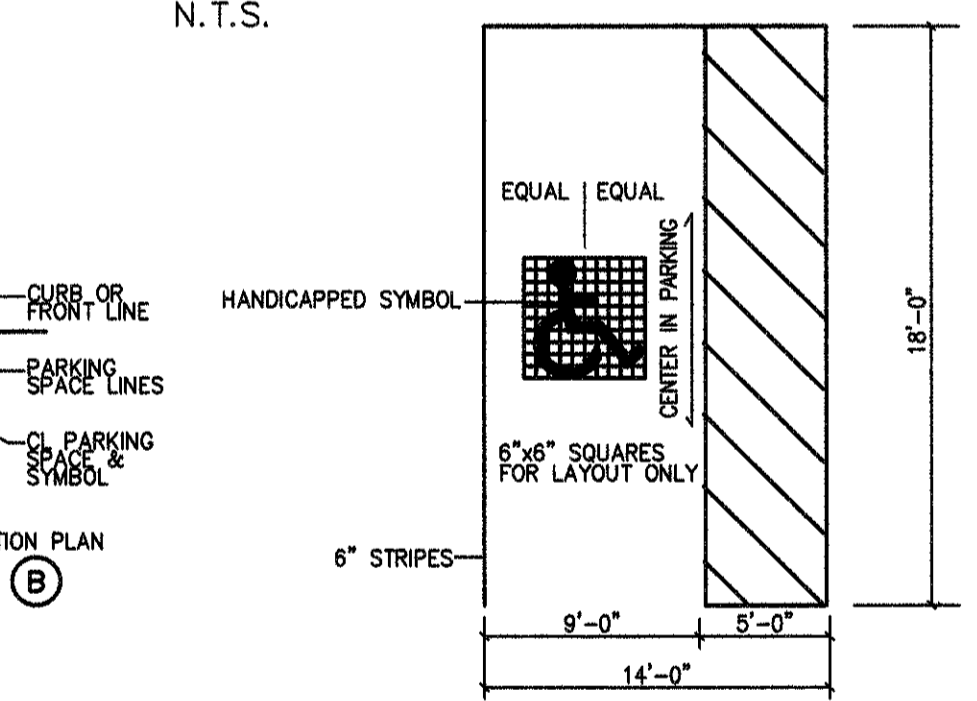


PARKING SIGN-DETAIL
N.T.S.

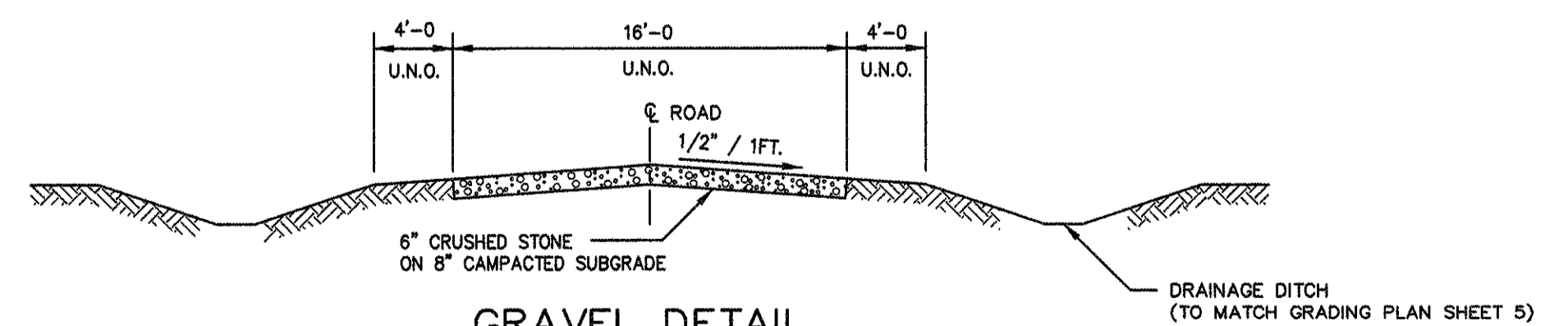


PARKING SYMBOL

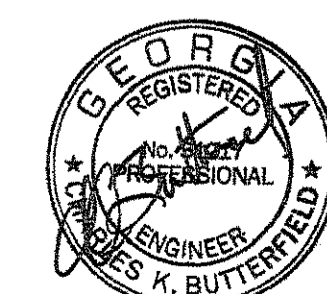
ADA PARKING SIGN & STRIPING DETAILS
N.T.S.



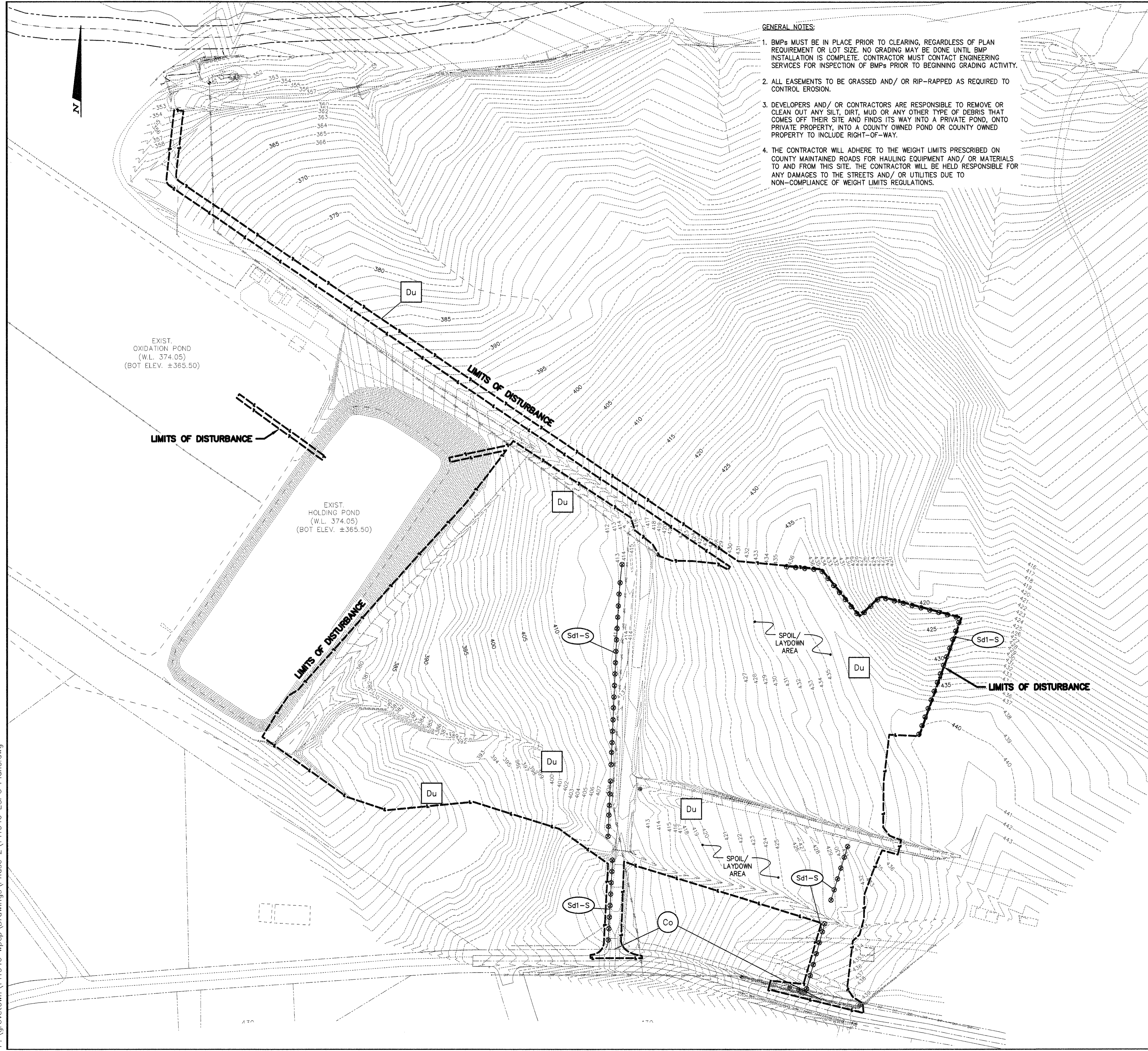
PARKING SPACE



GRAVEL DETAIL
N.T.S.



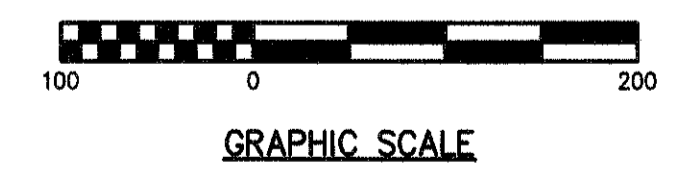
REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		MISCELLANEOUS DETAILS	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB		
G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA		SHEET 71 OF 77	



- GENERAL NOTES:**
1. BMPs MUST BE IN PLACE PRIOR TO CLEARING, REGARDLESS OF PLAN REQUIREMENT OR LOT SIZE. NO GRADING MAY BE DONE UNTIL BMP INSTALLATION IS COMPLETE. CONTRACTOR MUST CONTACT ENGINEERING SERVICES FOR INSPECTION OF BMPs PRIOR TO BEGINNING GRADING ACTIVITY.
 2. ALL EASEMENTS TO BE GRASSED AND/ OR RIP-RAPPED AS REQUIRED TO CONTROL EROSION.
 3. DEVELOPERS AND/ OR CONTRACTORS ARE RESPONSIBLE TO REMOVE OR CLEAN OUT ANY SILT, DIRT, MUD OR ANY OTHER TYPE OF DEBRIS THAT COMES OFF THEIR SITE AND FINDS ITS WAY INTO A PRIVATE POND, ONTO PRIVATE PROPERTY, INTO A COUNTY OWNED POND OR COUNTY OWNED PROPERTY TO INCLUDE RIGHT-OF-WAY.
 4. THE CONTRACTOR WILL ADHERE TO THE WEIGHT LIMITS PRESCRIBED ON COUNTY MAINTAINED ROADS FOR HAULING EQUIPMENT AND/ OR MATERIALS TO AND FROM THIS SITE. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THE STREETS AND/ OR UTILITIES DUE TO NON-COMPLIANCE OF WEIGHT LIMITS REGULATIONS.

BEST MANAGEMENT PRACTICE (BMP) LEGEND

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Co	CONSTRUCTION EXIT			A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM TIRES, THEREBY PROTECTING PUBLIC STREETS.
Sd1	SEDIMENT BARRIER			A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OF STRAW OR HAY, BRUSH, LOGS, AND POLES, GRAVEL, OR A SEDIMENT FENCE. THE BARRIERS ARE USUALLY TEMPORARY AND INEXPENSIVE.
Sd2	SEDIMENT BARRIER			A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OF STRAW OR HAY, BRUSH, LOGS, AND POLES, GRAVEL, OR A SEDIMENT FENCE. THE BARRIERS ARE USUALLY TEMPORARY AND INEXPENSIVE.
Sd3	TEMPORARY SEDIMENT BASIN			A BASIN CREATED BY EXCAVATION OR THE CONSTRUCTION OF A DAM FOR SEDIMENT COLLECTION.
Cd	CHECK DAM			A SMALL TEMPORARY BARRIER OR DAM CONSTRUCTED ACROSS A SWALE, DRAINAGE DITCH OR AREA OF CONCENTRATED FLOW.
St	STORM DRAIN OUTLET PROTECTION			A PAVED OR SHORT SECTION OF RIP RAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUN-OFF.
Tp	TOPSOILING			THE PRACTICE OF STRIPPING OFF THE MORE FERTILE TOP SOIL, STORING IT, THEN SPREADING IT OVER THE THE DISTURBED AREA AFTER THE COMPLETION OF CONSTRUCTION ACTIVITIES.
Rp	RIP-RAP			LOOSE ROCK, OR SIMILAR DURABLE MATERIAL, INSTALLED ON SLOPES FOR PROTECTION FROM EROSION CAUSED BY WATER TURBULENCE OR HIGH VELOCITIES.
Rd	ROCK FILTER DAM			ESTABLISHING A TEMPORARY STONE FILTER DAM INSTALLED ACROSS SMALL STREAMS OR DRAINAGEWAYS.
Ch	CHANNEL STABILIZATION			IMPROVING, CONSTRUCTING OR STABILIZING AN OPEN CHANNEL, EXISTING STREAM OR DITCH.
Du	DUST CONTROL ON DISTURBED AREAS		Du	CONTROLLING SURFACE AND AIR MOVEMENT DUST ON CONSTRUCTION SITES, ROADWAYS AND SIMILAR SITES.
Ss	SLOPE STABILIZATION		Ss	THE INSTALLATION OF A PROTECTIVE (BLANKET) OR SOIL STABILIZATION MAT ON A PREPARED PLANTING AREA OF A STEEP SLOPE, CHANNEL, OR SHORELINE.
Ds1	DISTURBED AREA STABILIZATION (MULCHING)		Ds1	ESTABLISHING A TEMPORARY VEGETATIVE COVER WITH PLANT RESIDUES ON DISTURBED AREAS.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION)		Ds2	ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.
Ds3	DISTURBED AREA STABILIZATION (PERMANENT)		Ds3	ESTABLISHING PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOO, OR LEGUMES ON DISTURBED AREAS.
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)		Ds4	A PERMANENT VEGETATIVE COVER USING SOO ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.
Sk	FLOATING SURFACE SKIMMER		Sk	A BUOYANT DEVICE THAT RELEASES/DRAINS WATER FROM THE SURFACE OF SEDIMENT PONDS, TRAPS, OR BASINS AT A CONTROLLED RATE OF FLOW.
Di	DIVERSION		Di	AN EARTH CHANNEL OR DIKE LOCATED ABOVE, BELOW, OR ACROSS A SLOPE TO DIVERT RUNOFF. THIS MAY BE A TEMPORARY OR PERMANENT STRUCTURE.



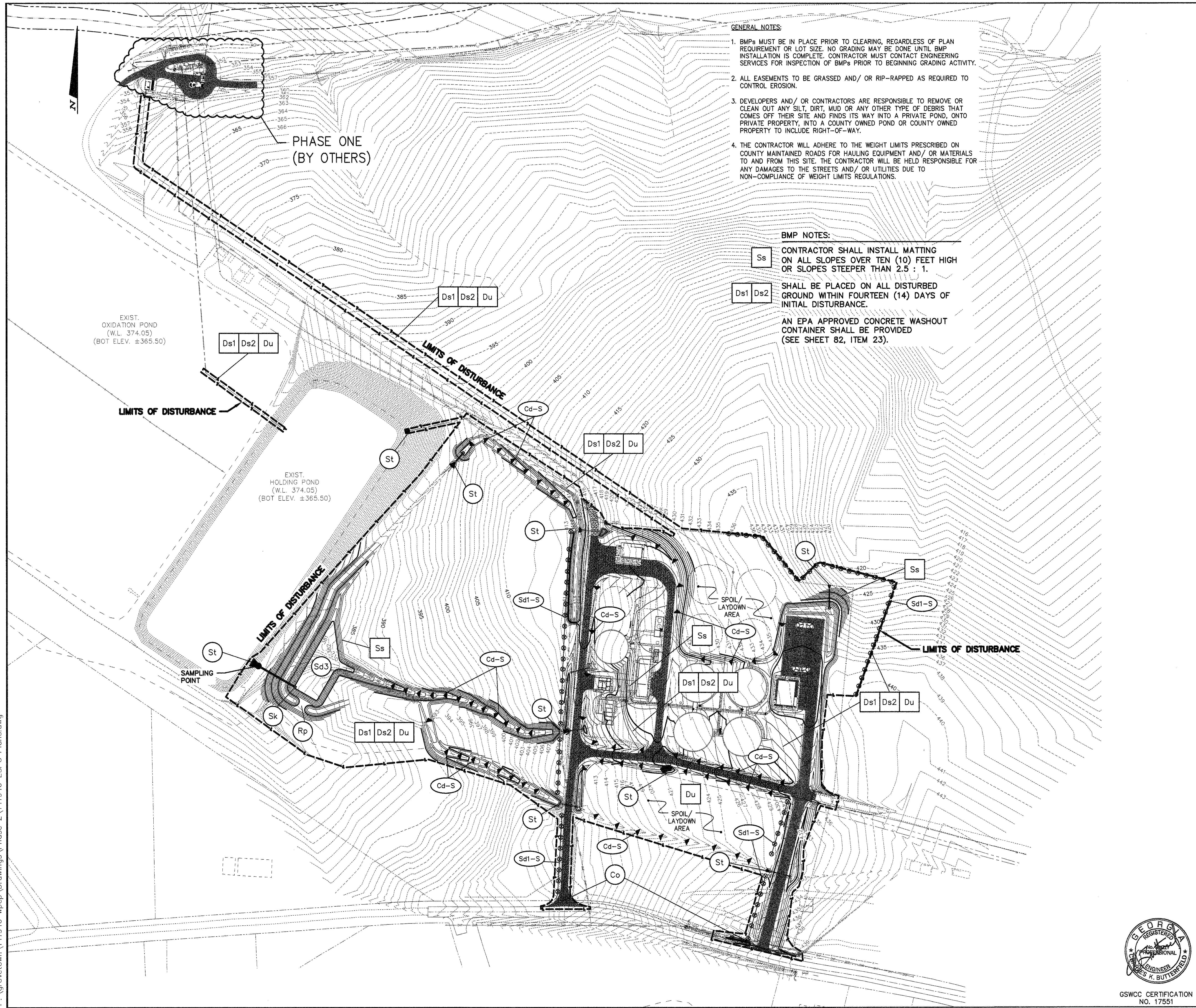
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REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT -- PHASE II	
04/2017		INITIAL EROSION CONTROL PLAN	
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 72 OF 77	

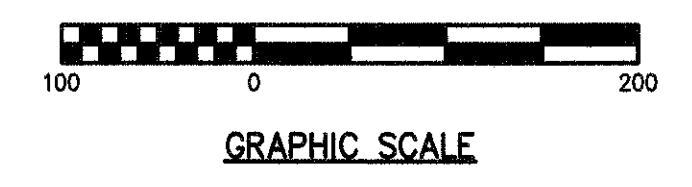
GSWCC CERTIFICATION NO. 17551



- GENERAL NOTES:**
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 4. THE CONTRACTOR WILL ADHERE TO THE WEIGHT LIMITS PRESCRIBED ON COUNTY MAINTAINED ROADS FOR HAULING EQUIPMENT AND/ OR MATERIALS TO AND FROM THIS SITE. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THE STREETS AND/ OR UTILITIES DUE TO NON-COMPLIANCE OF WEIGHT LIMITS REGULATIONS.

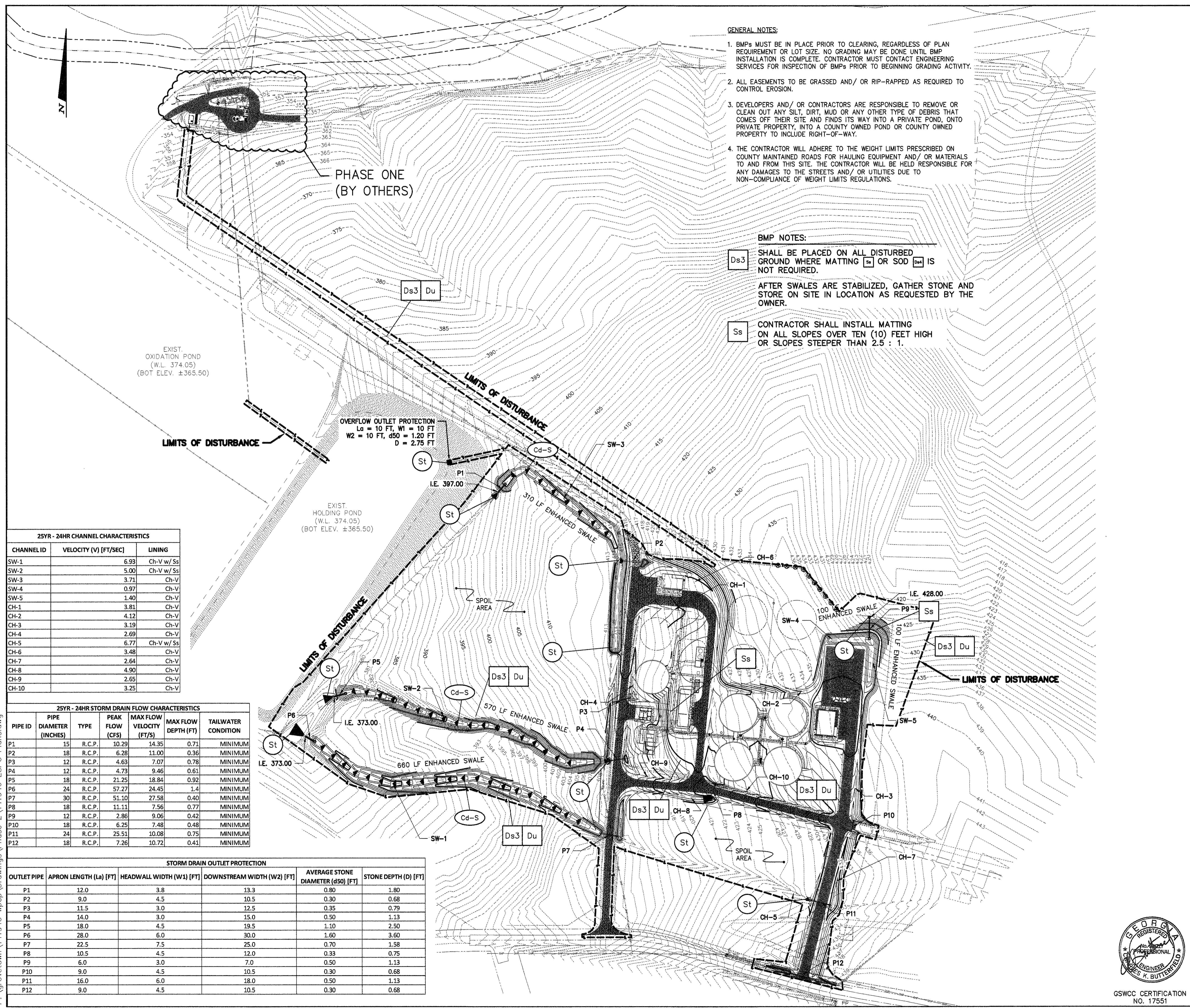
- BMP NOTES:**
- Ss** CONTRACTOR SHALL INSTALL MATTING ON ALL SLOPES OVER TEN (10) FEET HIGH OR SLOPES STEEPER THAN 2.5 : 1.
 - Ds1 Ds2** SHALL BE PLACED ON ALL DISTURBED GROUND WITHIN FOURTEEN (14) DAYS OF INITIAL DISTURBANCE.
 - AN EPA APPROVED CONCRETE WASHOUT CONTAINER SHALL BE PROVIDED (SEE SHEET 82, ITEM 23).

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St	STORM DRAIN OUTLET PROTECTION			A PAIRED OR SHORT SECTION OF RIP RAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUN-OFF.
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Rp	RIP-RAP			LOOSE ROCK, OR SIMILAR DURABLE MATERIAL, INSTALLED ON SLOPES FOR PROTECTION FROM EROSION CAUSED BY WATER TURBULENCE OR HIGH VELOCITIES.
Rd	ROCK FILTER DAM			ESTABLISHING A TEMPORARY STONE FILTER DAM INSTALLED ACROSS SMALL STREAMS OR DRAINAGEWAYS.
Ch	CHANNEL STABILIZATION			IMPROVING, CONSTRUCTING OR STABILIZING AN OPEN CHANNEL, EXISTING STREAM OR DITCH.
Du	DUST CONTROL ON DISTURBED AREAS			CONTROLLING SURFACE AND AIR MOVEMENT DUST ON CONSTRUCTION SITES, ROADWAYS AND SIMILAR SITES.
Ss	SLOPE STABILIZATION			THE INSTALLATION OF A PROTECTIVE (BLANKET) OR SOIL STABILIZATION MAT ON A PREPARED PLANTING AREA OF A STEEP SLOPE, CHANNEL, OR SHORELINE.
Ds1	DISTURBED AREA STABILIZATION (MULCHING)			ESTABLISHING A TEMPORARY VEGETATIVE COVER WITH PLANT RESIDUES ON DISTURBED AREAS.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION)			ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.
Ds3	DISTURBED AREA STABILIZATION (PERMANENT)			ESTABLISHING PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOIL, OR LEGUMES ON DISTURBED AREAS.
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)			A PERMANENT VEGETATIVE COVER USING SOD ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.
Sk	FLOATING SURFACE SKIMMER			A BUOYANT DEVICE THAT RELEASES/DRAINS WATER FROM THE SURFACE OF SEDIMENT PONDS, TRAPS, OR BASINS AT A CONTROLLED RATE OF FLOW.
Di	DIVERSION			AN EARTH CHANNEL OR DIKE LOCATED ABOVE, BELOW, OR ACROSS A SLOPE TO DIVERT RUNOFF. THIS MAY BE A TEMPORARY OR PERMANENT STRUCTURE.



REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS WATER POLLUTION CONTROL PLANT - PHASE II	
04/2017		INTERMEDIATE EROSION CONTROL PLAN	
05/2017			
DRAWN CHECKED		SCALE: AS SHOWN DATE: JANUARY 2017	
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA	
		SHEET 73 OF 77	





- GENERAL NOTES:**
- BMPs MUST BE IN PLACE PRIOR TO CLEARING, REGARDLESS OF PLAN REQUIREMENT OR LOT SIZE. NO GRADING MAY BE DONE UNTIL BMP INSTALLATION IS COMPLETE. CONTRACTOR MUST CONTACT ENGINEERING SERVICES FOR INSPECTION OF BMPs PRIOR TO BEGINNING GRADING ACTIVITY.
 - ALL EASEMENTS TO BE GRASSED AND/ OR RIP-RAPPED AS REQUIRED TO CONTROL EROSION.
 - DEVELOPERS AND/ OR CONTRACTORS ARE RESPONSIBLE TO REMOVE OR CLEAN OUT ANY SILT, DIRT, MUD OR ANY OTHER TYPE OF DEBRIS THAT COMES OFF THEIR SITE AND FINDS ITS WAY INTO A PRIVATE POND, ONTO PRIVATE PROPERTY, INTO A COUNTY OWNED POND OR COUNTY OWNED PROPERTY TO INCLUDE RIGHT-OF-WAY.
 - THE CONTRACTOR WILL ADHERE TO THE WEIGHT LIMITS PRESCRIBED ON COUNTY MAINTAINED ROADS FOR HAULING EQUIPMENT AND/ OR MATERIALS TO AND FROM THIS SITE. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THE STREETS AND/ OR UTILITIES DUE TO NON-COMPLIANCE OF WEIGHT LIMITS REGULATIONS.

- BMP NOTES:**
- Ds3** SHALL BE PLACED ON ALL DISTURBED GROUND WHERE MATTING [Ss] OR SOD [Ds4] IS NOT REQUIRED.
 - AFTER SWALES ARE STABILIZED, GATHER STONE AND STORE ON SITE IN LOCATION AS REQUESTED BY THE OWNER.
 - Ss** CONTRACTOR SHALL INSTALL MATTING ON ALL SLOPES OVER TEN (10) FEET HIGH OR SLOPES STEEPER THAN 2.5 : 1.

25YR - 24HR CHANNEL CHARACTERISTICS

CHANNEL ID	VELOCITY (V) [FT/SEC]	LINING
SW-1	6.93	Ch-V w/ Ss
SW-2	5.00	Ch-V w/ Ss
SW-3	3.71	Ch-V
SW-4	0.97	Ch-V
SW-5	1.40	Ch-V
CH-1	3.81	Ch-V
CH-2	4.12	Ch-V
CH-3	3.19	Ch-V
CH-4	2.69	Ch-V
CH-5	6.77	Ch-V w/ Ss
CH-6	3.48	Ch-V
CH-7	2.64	Ch-V
CH-8	4.90	Ch-V
CH-9	2.65	Ch-V
CH-10	3.25	Ch-V

25YR - 24HR STORM DRAIN FLOW CHARACTERISTICS

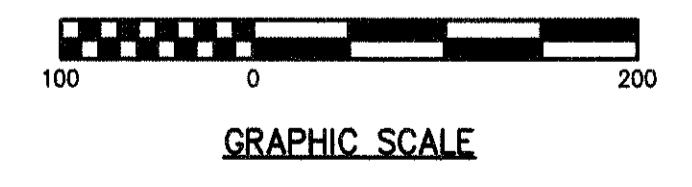
PIPE ID	PIPE DIAMETER (INCHES)	TYPE	PEAK FLOW (CFS)	MAX FLOW VELOCITY (FT/S)	MAX FLOW DEPTH (FT)	TAILWATER CONDITION
P1	15	R.C.P.	10.29	14.35	0.71	MINIMUM
P2	18	R.C.P.	6.28	11.00	0.36	MINIMUM
P3	12	R.C.P.	4.63	7.07	0.78	MINIMUM
P4	12	R.C.P.	4.73	9.46	0.61	MINIMUM
P5	18	R.C.P.	21.25	18.84	0.92	MINIMUM
P6	24	R.C.P.	57.27	24.45	1.4	MINIMUM
P7	30	R.C.P.	51.10	27.58	0.40	MINIMUM
P8	18	R.C.P.	11.11	7.56	0.77	MINIMUM
P9	12	R.C.P.	2.86	9.06	0.42	MINIMUM
P10	18	R.C.P.	6.25	7.48	0.48	MINIMUM
P11	24	R.C.P.	25.51	10.08	0.75	MINIMUM
P12	18	R.C.P.	7.26	10.72	0.41	MINIMUM

STORM DRAIN OUTLET PROTECTION

OUTLET PIPE	APRON LENGTH (La) [FT]	HEADWALL WIDTH (W1) [FT]	DOWNSTREAM WIDTH (W2) [FT]	AVERAGE STONE DIAMETER (d50) [FT]	STONE DEPTH (D) [FT]
P1	12.0	3.8	13.3	0.80	1.80
P2	9.0	4.5	10.5	0.30	0.68
P3	11.5	3.0	12.5	0.35	0.79
P4	14.0	3.0	15.0	0.50	1.13
P5	18.0	4.5	19.5	1.10	2.50
P6	28.0	6.0	30.0	1.60	3.60
P7	22.5	7.5	25.0	0.70	1.58
P8	10.5	4.5	12.0	0.33	0.75
P9	6.0	3.0	7.0	0.50	1.13
P10	9.0	4.5	10.5	0.30	0.68
P11	16.0	6.0	18.0	0.50	1.13
P12	9.0	4.5	10.5	0.30	0.68

BEST MANAGEMENT PRACTICE (BMP) LEGEND

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Co	CONSTRUCTION EXIT			A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM TIRES, THEREBY PROTECTING PUBLIC STREETS.
Sd1	SEDIMENT BARRIER			A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OF STRAW OR HAY, BRUSH, LOGS, AND POLES, GRAVEL, OR A SEDIMENT FENCE. THE BARRIERS ARE USUALLY TEMPORARY AND INEXPENSIVE.
Sd2	SEDIMENT BARRIER			A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OF STRAW OR HAY, BRUSH, LOGS, AND POLES, GRAVEL, OR A SEDIMENT FENCE. THE BARRIERS ARE USUALLY TEMPORARY AND INEXPENSIVE.
Sd3	TEMPORARY SEDIMENT BASIN			A BASIN CREATED BY EXCAVATION OR THE CONSTRUCTION OF A DAM FOR SEDIMENT COLLECTION.
Cd	CHECK DAM			A SMALL TEMPORARY BARRIER OR DAM CONSTRUCTED ACROSS A SWALE, DRAINAGE DITCH OR AREA OF CONCENTRATED FLOW.
St	STORM DRAIN OUTLET PROTECTION			A PAVED OR SHORT SECTION OF RIP-RAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUN-OFF.
Tp	TOPSOILING			THE PRACTICE OF STRIPPING OFF THE MORE FERTILE TOP SOIL, STORING IT, THEN SPREADING IT OVER THE DISTURBED AREA AFTER THE COMPLETION OF CONSTRUCTION ACTIVITIES.
Rp	RIP-RAP			LOOSE ROCK, OR SIMILAR DURABLE MATERIAL, INSTALLED ON SLOPES FOR PROTECTION FROM EROSION CAUSED BY WATER TURBULENCE OR HIGH VELOCITIES.
Rd	ROCK FILTER DAM			ESTABLISHING A TEMPORARY STONE FILTER DAM INSTALLED ACROSS SMALL STREAMS OR DRAINAGEWAYS.
Ch	CHANNEL STABILIZATION			IMPROVING, CONSTRUCTING OR STABILIZING AN OPEN CHANNEL, EXISTING STREAM OR DITCH.
Du	DUST CONTROL ON DISTURBED AREAS			CONTROLLING SURFACE AND AIR MOVEMENT DUST ON CONSTRUCTION SITES, ROADWAYS AND SIMILAR SITES.
Ss	SLOPE STABILIZATION			THE INSTALLATION OF A PROTECTIVE (BLANKET) OR SOIL STABILIZATION MAT ON A PREPARED PLANTING AREA OF A STEEP SLOPE, CHANNEL, OR SHORELINE.
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Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION)			ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.
Ds3	DISTURBED AREA STABILIZATION (PERMANENT)			ESTABLISHING PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREAS.
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)			A PERMANENT VEGETATIVE COVER USING SOD ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.
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REVISIONS

04/2017	
05/2017	

**CITY OF GROVETOWN, GEORGIA
SEWERAGE SYSTEM IMPROVEMENTS
WATER POLLUTION CONTROL PLANT - PHASE II**

FINAL EROSION CONTROL PLAN

DRAWN GKA **CHECKED** CKB

SCALE: AS SHOWN **DATE:** JANUARY 2017

G. BEN TURNIPSEED ENGINEERS
Environmental - Civil - Hydraulic
ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA

SHEET 74 OF 77



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EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST

STAND ALONE CONSTRUCTION PROJECTS

- 1. THE APPLICABLE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN CHECKLIST ESTABLISHED BY THE COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED. PROVIDED ON THIS SHEET AND SHEET 76.
2. LEVEL II CERTIFICATION NUMBER ISSUED BY THE COMMISSION, SIGNATURE AND SEAL OF THE CERTIFIED DESIGN PROFESSIONAL, SHOWN ON ALL SHEETS WHERE APPLICABLE.
3. LIMIT OF DISTURBANCE SHALL BE NO GREATER THAN 50 ACRES AT ANY ONE TIME WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE EPD DISTRICT OFFICE, IF EPD APPROVES THE REQUEST TO DISTURB 50 ACRES OR MORE AT ANY ONE TIME, THE PLAN MUST INCLUDE AT LEAST 4 OF THE BMPs LISTED IN APPENDIX 1 OF THIS CHECKLIST, NOT APPLICABLE. TOTAL LAND DISTURBANCE IS 21.63 ACRES.
4. THE NAME AND PHONE NUMBER OF 24-HOUR LOCAL CONTACT RESPONSIBLE FOR EROSION, SEDIMENTATION AND POLLUTION CONTROLS.
OWNER: CITY OF GROVETOWN
103 OLD WRIGHTSBORO RD.
GROVETOWN, GA 30813-0120
24-HOUR CONTACT: MR. RAYMOND FULCHER, WATER, WASTEWATER AND STORMWATER OPERATIONS MANAGER (770) 692-9101
5. PROVIDE NAME, ADDRESS AND PHONE NUMBER OF PRIMARY PERMITTEE. PRIMARY PERMITTEE: CITY OF GROVETOWN
ADDRESS: 103 OLD WRIGHTSBORO RD. GROVETOWN, GA 30813-0120
TELEPHONE: (706) 863-4576
6. NOTE TOTAL AND DISTURBED ACREAGE OF THE PROJECT OR PHASE UNDER CONSTRUCTION. THE TOTAL SITE ACREAGE IS APPROXIMATELY 214 ACRES. THE TOTAL DISTURBED ACREAGE IS APPROXIMATELY 21.63 ACRES.
7. PROVIDE THE GPS LOCATION OF THE CONSTRUCTION EXIT FOR THE SITE, GIVE THE LATITUDE AND LONGITUDE IN DECIMAL DEGREES. THE CONSTRUCTION EXIT IS LOCATED AT APPROXIMATELY 33.4355496N, 82.2139252W.
8. INITIAL DATE OF THE PLAN AND THE DATES OF ANY REVISIONS MADE TO THE PLAN INCLUDING THE ENTITY WHO REQUESTED THE REVISIONS. SHOWN ON ALL SHEETS WHERE APPLICABLE.
9. DESCRIPTION OF THE NATURE OF CONSTRUCTION ACTIVITY. THE PROJECT CONSISTS OF CONSTRUCTING A MECHANICAL WATER POLLUTION CONTROL PLANT ON EXISTING SPRAY FIELDS.
10. PROVIDE VICINITY MAP SHOWING SITE'S RELATION TO SURROUNDING AREAS. INCLUDE DESIGNATION OF SPECIFIC PHASE, IF NECESSARY. VICINITY MAP IS SHOWN ON SHEET 1.
11. IDENTIFY THE PROJECT RECEIVING WATERS AND DESCRIBE ALL SENSITIVE ADJACENT AREAS INCLUDING STREAMS, LAKES, RESIDENTIAL AREAS, WETLANDS, ETC. WHICH MAY BE AFFECTED. THE RECEIVING WATER FOR THIS PROJECT IS UCHEE CREEK. AREAS ADJACENT TO THE SITE ARE LARGE OPEN FIELDS, WOODS, WETLANDS AND RESIDENTIAL AREAS.
12. DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE SITE WAS VISITED PRIOR TO DEVELOPMENT OF THE ES&PC PLAN AS STATED ON PAGE 15 OF THE PERMIT. SEE "LICENSED PROFESSIONAL CERTIFICATION" ON THIS SHEET.
13. DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE PERMITTEE'S ES&PC PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BMPs AND SAMPLING TO MEET PERMIT REQUIREMENTS AS STATED ON PAGE 15 OF THE PERMIT. SEE "LICENSED PROFESSIONAL CERTIFICATION" ON THIS SHEET.
14. CLEARLY NOTE THE STATEMENT THAT "THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION." THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.
15. CLEARLY NOTE THE STATEMENT THAT "NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
16. PROVIDE A DESCRIPTION OF ANY BUFFER ENCROACHMENTS AND INDICATE WHETHER A BUFFER VARIANCE IS REQUIRED." NO ACTIVITY WILL OCCUR WITHIN THE 25-FOOT BUFFER AND THEREFORE NO BUFFER VARIANCE IS REQUIRED.
17. CLEARLY NOTE THE STATEMENT THAT "AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL." AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
18. CLEARLY NOTE THE STATEMENT THAT "WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT." WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
19. CLEARLY NOTE THE STATEMENT THAT "THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES." THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.
20. CLEARLY NOTE THE STATEMENT THAT "EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES, IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE." EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES, IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
21. CLEARLY NOTE THE STATEMENT "ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING." ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

- 22. ANY CONSTRUCTION ACTIVITY WHICH DISCHARGES STORM WATER INTO AN IMPAIRED STREAM SEGMENT OR WITHIN 1 MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT MUST COMPLY WITH PART III.C OF THE PERMIT INCLUDE THE COMPLETED APPENDIX 1 LISTING ALL THE BMPs THAT WILL BE USED FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO THE IMPAIRED STREAM SEGMENT, NOT APPLICABLE. THE PROJECT DISCHARGES INTO TRIBUTARIES THAT DISCHARGE INTO UCHEE CREEK WHICH IS NOT IMPAIRED AND IS NOT WITHIN ONE (1) MILE OF A BIOTA IMPAIRED STREAM.
23. IF A TMDL IMPLEMENTATION PLAN FOR SEDIMENT HAS BEEN FINALIZED FOR THE IMPAIRED STREAM SEGMENT (IDENTIFIED IN ITEM 21 ABOVE) AT LEAST SIX MONTHS PRIOR TO SUBMITTAL OF NOI, THE ES&PC PLAN MUST ADDRESS ANY SITE-SPECIFIC CONDITIONS OR REQUIREMENTS INCLUDED IN THE TMDL IMPLEMENTATION PLAN, NOT APPLICABLE. THE PROJECT DISCHARGES INTO TRIBUTARIES THAT DISCHARGE INTO UCHEE CREEK WHICH IS NOT IMPAIRED AND IS NOT WITHIN ONE (1) MILE OF A BIOTA IMPAIRED STREAM.
24. BMPs FOR CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF THE VEHICLES, WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED, NOT APPLICABLE. CONCRETE WASHDOWN IS NOT ALLOWED WITHIN THE PROJECT SITE.
25. PROVIDE BMPs FOR THE REMEDIATION OF ALL PETROLEUM SPILLS AND LEAKS.

SOIL CLEANUP AND CONTROL PRACTICES

- LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND PROCEDURES SHALL BE MADE AVAILABLE TO SITE PERSONNEL.
MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
SPILL PREVENTION PRACTICES AND PROCEDURES SHALL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS SHALL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) SHALL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) SHALL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD SHALL BE CONTACTED WITHIN 24 HOURS.
FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL SHALL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.

THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY OF GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.

- 26. DESCRIPTION OF THE MEASURES THAT WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. BEST MANAGEMENT PRACTICES (BMPs) IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL SHALL BE EMPLOYED TO PREVENT EROSION IN AREAS OF BARE SOILS AND CONCENTRATED WATER FLOWS. PERMANENT GRASSING SHALL BE USED TO STABILIZE THE SITE AND PREVENT EROSION AND SEDIMENT IN STORMWATER RUNOFF FROM THE SITE. ENHANCED SWALES WILL BE USED TO TREAT THE FIRST 1.2 INCHES.
27. DESCRIPTION OF THE PRACTICES THAT WILL BE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES.

PRODUCT SPECIFIC PRACTICES

PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND LARS SHALL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS SHALL BE LOCATED AWAY FROM STATE WATER, NATURAL DRAINS AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS SHALL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED.

PAINTS/FINISHES/SOLVENTS - ALL PRODUCTS SHALL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT SHALL NOT BE DISCHARGED TO STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS SHALL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

CONCRETE TRUCK WASHING - NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

FERTILIZER/HERBICIDES - THESE PRODUCTS SHALL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS SHALL BE UNDER ROOF IN SEALED CONTAINERS.

BUILDING MATERIALS - NO BUILDING OR CONSTRUCTION MATERIALS SHALL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIALS SHALL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.

- 28. DESCRIPTION AND CHART OR TIMELINE OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH DISTURB SOILS FOR THE MAJOR PORTIONS OF THE SITE (I.E., INITIAL PERIMETER AND SEDIMENT STORAGE BMPs, CLEARING AND GRUBBING ACTIVITIES, EXCAVATION ACTIVITIES, UTILITY ACTIVITIES, TEMPORARY AND FINAL STABILIZATION). SEE CONSTRUCTION SCHEDULE ON SHEET 76. INITIAL CONSTRUCTION IS EXPECTED TO BEGIN AUGUST 2017 AND FINAL STABILIZATION WILL BE ACCOMPLISHED TWENTY ONE MONTHS AFTER CONSTRUCTION STARTS.

- 29. PROVIDE COMPLETE REQUIREMENTS OF INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE.

PRIMARY PERMITTEE

- (1). EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT; (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING; THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
(2). MEASURE RAINFALL ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY UNTIL A NOTICE OF TERMINATION IS SUBMITTED. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.
(3). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00 PM ON ANY FRIDAY OR ON ANY NONWORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; AND (C) STRUCTURAL CONTROL MEASURES, EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR

THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(3). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
(4). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION IS RECEIVED BY EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).
(5). BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION.
(6). A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E., INITIAL, INTERMEDIATE OR FINAL), MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(5) OF THE PERMIT SHALL BE MADE AND RETAINED AT THE SITE OR THAT PORTION OF A CONSTRUCTION PROJECT THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR MAINTAINED AS DESCRIBED IN THE PLAN. WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT.

- 30. PROVIDE COMPLETE REQUIREMENTS OF SAMPLING FREQUENCY AND REPORTING OF SAMPLING RESULTS.

SEE SAMPLING SITE MAP ON SHEET 76 FOR SAMPLING LOCATIONS.

SAMPLING FREQUENCY

- 1. THE PRIMARY PERMITTEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW FOR A QUALIFYING EVENT, THE PERMITTEE SHALL SAMPLE AT THE BEGINNING OF ANY STORM WATER DISCHARGE TO A MONITORED OUTFALL LOCATION WITHIN FORTY-FIVE (45) MINUTES OR AS SOON AS POSSIBLE.
2. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORM WATER DISCHARGE.
3. SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:
(A). FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORM WATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT AFTER ALL CLEARING AND GRUBBING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO COMPLETION OF MASS GRADING OPERATIONS, IN THE DRAINAGE AREA OF THE LOCATIONS SELECTED AS THE SAMPLING LOCATION;
(B). IN ADDITION TO (A) ABOVE, FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH 0.5 INCH WITH A STORM WATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT EITHER 90 DAYS AFTER COMPLETED, BUT PRIOR TO SUBMITTAL OF A NOI, IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST;
(C). AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMPs IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTION SHALL BE DEFINED AND IMPLEMENTED WITHIN TWO (2) BUSINESS DAYS, AND TURBIDITY SAMPLES SHALL BE TAKEN FROM DISCHARGES FROM THAT AREA OF THE SITE FOR EACH SUBSEQUENT RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH DURING NORMAL BUSINESS HOURS* UNTIL THE SELECTED TURBIDITY STANDARD IS ATTAINED, OR UNTIL POST-STORM EVENT INSPECTIONS DETERMINE THAT BMPs ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED;
(D). WHERE SAMPLING PURSUANT TO (A), (B) OR (C) ABOVE IS REQUIRED BUT NOT POSSIBLE (OR NOT REQUIRED BECAUSE THERE WAS NO DISCHARGE), THE PERMITTEE, IN ACCORDANCE WITH PART IV.D.4.A.(6), MUST INCLUDE A WRITTEN JUSTIFICATION IN THE INSPECTION REPORT OF WHY SAMPLING WAS NOT PERFORMED. PROVIDING THIS JUSTIFICATION DOES NOT RELIEVE THE PERMITTEE OF ANY SUBSEQUENT SAMPLING OBLIGATIONS UNDER (A), (B) OR (C) ABOVE; AND
(E). EXISTING CONSTRUCTION ACTIVITIES, I.E., THOSE THAT ARE OCCURRING ON OR BEFORE THE EFFECTIVE DATE OF THIS PERMIT, THAT HAVE MET THE SAMPLING REQUIRED BY (A) ABOVE SHALL SAMPLE IN ACCORDANCE WITH (B). THOSE EXISTING CONSTRUCTION ACTIVITIES THAT HAVE MET THE SAMPLING REQUIRED BY (B) ABOVE SHALL NOT BE REQUIRED TO CONDUCT ADDITIONAL SAMPLING OTHER THAN AS REQUIRED BY (C) ABOVE.
*NOTE THAT THE PERMITTEE MAY CHOOSE TO MEET THE REQUIREMENTS OF (A) AND (B) ABOVE BY COLLECTING TURBIDITY SAMPLES FROM ANY RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR MONITORING AT ANY TIME OF THE DAY OR WEEK.

REPORTING

- 1. THE APPLICABLE PERMITTEES ARE REQUIRED TO SUBMIT THE SAMPLING RESULTS TO THE EPD AT THE ADDRESS SHOWN IN PART II.C. BY THE FIFTEENTH DAY OF THE MONTH FOLLOWING THE REPORTING PERIOD. REPORTING PERIODS ARE MONTHS DURING WHICH SAMPLES ARE TAKEN IN ACCORDANCE WITH THIS PERMIT. SAMPLING RESULTS SHALL BE IN A CLEARLY LEGIBLE FORMAT. UPON WRITTEN NOTIFICATION, EPD MAY REQUIRE THE APPLICABLE PERMITTEE TO SUBMIT THE SAMPLING RESULTS ON A MORE FREQUENT BASIS. SAMPLING AND ANALYSIS OF ANY STORM WATER DISCHARGE(S) OR THE RECEIVING WATER(S) BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED IN A SIMILAR MANNER TO THE EPD. THE SAMPLING REPORTS MUST BE SIGNED IN ACCORDANCE WITH PART V.G.2. SAMPLING REPORTS MUST BE SUBMITTED TO EPD UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.
2. ALL SAMPLING REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:
A. THE RAINFALL AMOUNT, DATE, EXACT PLACE AND TIME OF SAMPLING OR MEASUREMENTS;
B. THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE SAMPLING AND MEASUREMENTS;
C. THE DATE(S) ANALYSES WERE PERFORMED;
D. THE TIME(S) ANALYSES WERE INITIATED;
E. THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE ANALYSES;
F. REFERENCES AND WRITTEN PROCEDURES, WHEN AVAILABLE, FOR THE ANALYTICAL TECHNIQUES OR METHODS USED;
G. THE RESULTS OF SUCH ANALYSES, INCLUDING THE BENCH SHEETS, INSTRUMENT READOUTS, COMPUTER DISK/ OR TAPES, ETC., USED TO DETERMINE THESE RESULTS;
H. RESULTS WHICH EXCEED 1000 NTU, SHALL BE REPORTED AS "EXCEEDS 1000 NTU;" AND
I. CERTIFICATION STATEMENT THAT SAMPLING WAS CONDUCTED AS PER THE PLAN.
3. ALL WRITTEN CORRESPONDENCE REQUIRED BY THIS PERMIT SHALL BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL (OR SIMILAR SERVICE) TO THE APPROPRIATE DISTRICT OFFICE OF THE EPD ACCORDING TO THE SCHEDULE IN APPENDIX A OF THIS PERMIT. THE PERMITTEE SHALL RETAIN A COPY OF THE PROOF OF SUBMITTAL AT THE CONSTRUCTION SITE OR THE PROOF OF SUBMITTAL SHALL BE READILY AVAILABLE AT A DESIGNATED LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI. IF AN ELECTRONIC SUBMITTAL IS PROVIDED BY EPD THEN THE WRITTEN CORRESPONDENCE MAY BE SUBMITTED ELECTRONICALLY. IF REQUIRED, A PAPER COPY MUST ALSO BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL OR SIMILAR SERVICE.
31. PROVIDE COMPLETE DETAILS FOR RETENTION OF RECORDS AS PER PART IV.F. OF THE PERMIT.
1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI:
A. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;
B. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;
C. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THIS PERMIT;

- D. A COPY OF ALL MONITORING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THIS PERMIT;
E. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THIS PERMIT;
F. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT; AND
G. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(1)(C) OF THIS PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, REPORTS, PLANS, MONITORING REPORTS, MONITORING INFORMATION, INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATIVE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION

DATE OF INSPECTION:
I CERTIFY THE SITE WAS IN COMPLIANCE WITH THE ES&PC PLAN ON THE DATE OF INSPECTION.

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN.

THESE DISCREPANCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL THE DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED.

LICENSED PROFESSIONAL CERTIFICATION

(1) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

(2) "I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100001."

CHARLES K. BUTTERFIELD, P.E. DATE
GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 31217
GSWCC LEVEL II CERTIFICATION NO. 17551
EXPIRES 9/27/18



GSWCC CERTIFICATION NO. 17551

Table with columns: REVISIONS (04/2017), CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS, WATER POLLUTION CONTROL PLANT - PHASE II, EROSION SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST, DRAWN (GKA), CHECKED (CKB), SCALE: AS SHOWN, DATE: JANUARY 2017, G. BEN TURNIPSEED ENGINEERS, Environmental - Civil - Hydraulic, SHEET 75 OF 77, ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST (CONTINUED)

STAND ALONE CONSTRUCTION PROJECTS

32. DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES FROM EACH LOCATION.
- STORMWATER SAMPLING**
- SAMPLE ANALYSIS-**
- STORM WATER SAMPLES ARE TO BE ANALYZED IN ACCORDANCE WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PART 136 AND THE GUIDANCE DOCUMENT TITLES "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT. EPA 833-B-92-001."
- STORM WATER IS TO BE SAMPLED FOR NEPHEOTOMETRIC TURBIDITY UNITS (NTU) AT THE LOCATIONS SHOWN ON THE SAMPLING SITE MAP (IN ACCORDANCE WITH ITEM NO. 30).
33. APPENDIX B RATIONALE FOR NTU VALUES AT ALL OUTFALL SAMPLING POINTS WHERE APPLICABLE. ONE OUTFALL IS BEING SAMPLED FOR DRAINAGE BASIN NO. 1. THE TOTAL DISTURBED ACREAGE DRAINING TO BASIN NO. 1 IS 20.20 ACRES. THE DRAINED ACREAGE IS 29.87 ACRES OR 0.047 SQUARE MILES AS SHOWN ON THE STORMWATER MONITORING PLAN ON THIS SHEET. ACCORDING TO APPENDIX B OF THE GENERAL NPDES STORMWATER PERMIT FOR CONSTRUCTION SITES, WATERS BEING DISCHARGED FROM DRAINAGE BASIN NO. 1 SHALL NOT HAVE A TURBIDITY GREATER THAN 50 NTU.
34. DELINEATE ALL SAMPLING LOCATIONS, PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES INTO WHICH STORM WATER IS DISCHARGED. SEE SHEET THE SAMPLING SITE MAP.
35. A DESCRIPTION OF APPROPRIATE CONTROLS AND MEASURES THAT WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE INCLUDING: (1) INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs, (2) INTERMEDIATE GRADING AND DRAINAGE BMPs, AND (3) FINAL BMPs FOR CONSTRUCTION SITES WHERE THERE WILL BE NO MASS GRADING AND THE INITIAL PERIMETER CONTROL BMPs, INTERMEDIATE GRADING AND DRAINAGE BMPs, AND FINAL BMPs ARE THE SAME. THE PLAN MAY COMBINE ALL OF THE BMPs INTO A SINGLE PHASE. SEE SHEETS 72 THROUGH 74.
36. GRAPHIC SCALE AND NORTH ARROW, SHOWN ON ALL SHEETS WHERE APPLICABLE.
37. EXISTING AND PROPOSED CONTOUR LINES WITH CONTOUR LINES DRAWN AT AN INTERVAL IN ACCORDANCE WITH THE CHECKLIST. EXISTING CONTOURS AND PROPOSED CONTOURS ARE SHOWN ON SHEETS 2, 3, 4, 5 AND SHEETS 72 THROUGH 74.
38. USE OF ALTERNATIVE BMPs WHOSE PERFORMANCE HAS BEEN DOCUMENTED TO BE EQUIVALENT TO OR SUPERIOR TO CONVENTIONAL BMPs AS CERTIFIED BY A DESIGN PROFESSIONAL (UNLESS DISAPPROVED BY EPD OR THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION). PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE DOCUMENT FOUND AT WWW.GASWCC.GEORGIA.GOV. NO ALTERNATIVE BMPs HAVE BEEN SELECTED FOR THIS PROJECT.
39. USE OF ALTERNATIVE BMP FOR APPLICATION TO THE EQUIVALENT BMP LIST. PLEASE REFER TO APPENDIX A-2 OF THE MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA 2016 EDITION. NO ALTERNATIVE BMPs HAVE BEEN SELECTED FOR THIS PROJECT.
40. DELINEATION OF THE APPLICABLE 25-FOOT OR 50-FOOT UNDISTURBED BUFFERS ADJACENT TO STATE WATERS AND ANY ADDITIONAL BUFFERS REQUIRED BY THE LOCAL ISSUING AUTHORITY. CLEARLY NOTE AND DELINEATE ALL AREAS OF IMPACT. DELINEATION OF THE 25-FOOT BUFFER FOR TRIBUTARIES TO EUCHEE CREEK IS SHOWN ON SHEET 2.
41. DELINEATION OF ON-SITE WETLANDS AND ALL STATE WATERS LOCATED ON AND WITHIN 200 FEET OF THE PROJECT SITE. DELINEATION OF STATE WATERS AND WETLANDS IS SHOWN ON SHEET 2.
42. DELINEATION AND ACREAGE OF CONTRIBUTING DRAINAGE BASINS ON THE PROJECT SITE. DRAINAGE BASINS ARE SHOWN ON THE STORMWATER MONITORING PLAN ON THIS SHEET.
43. PROVIDE HYDROLOGY STUDY AND MAPS OF DRAINAGE BASINS FOR BOTH THE PRE- AND POST-DEVELOPED CONDITIONS. NOT APPLICABLE BECAUSE OF 10% RULE.
44. AN ESTIMATE OF THE RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOW OF THE SITE PRIOR TO AND AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED.
- RUNOFF COEFFICIENT**
- WEIGHTED PRE-CONSTRUCTION CN CURVE NUMBER: 63.6
 - WEIGHTED POST-CONSTRUCTION CN CURVE NUMBER: 72.5
45. STORM-DRAIN PIPE AND WEIR VELOCITIES WITH APPROPRIATE OUTLET PROTECTION TO ACCOMMODATE DISCHARGES WITHOUT EROSION. IDENTIFY/DELINEATE ALL STORM WATER DISCHARGE POINTS. SEE SHEET 74.
46. SOIL SERIES FOR THE PROJECT SITE AND THEIR DELINEATION. SEE THIS SHEET.
47. THE LIMITS OF DISTURBANCE FOR EACH PHASE OF CONSTRUCTION. LIMITS OF DISTURBANCE ARE SHOWN ON SHEETS 72 THROUGH 74.
48. PROVIDE A MINIMUM OF 67 CUBIC YARDS OF SEDIMENT STORAGE PER ACRE DRAINED USING A TEMPORARY SEDIMENT BASIN, RETROFITTED DETENTION POND, AND/OR EXCAVATED INLET SEDIMENT TRAPS FOR EACH COMMON DRAINAGE LOCATION. SEDIMENT STORAGE VOLUME MUST BE IN PLACE PRIOR TO AND DURING ALL LAND DISTURBANCE ACTIVITIES UNTIL FINAL STABILIZATION OF THE SITE HAS BEEN ACHIEVED. A WRITTEN JUSTIFICATION EXPLAINING THE DECISION TO USE EQUIVALENT CONTROLS WHEN A SEDIMENT BASIN IS NOT ATTAINABLE MUST BE INCLUDED IN THE PLAN FOR EACH COMMON DRAINAGE LOCATION IN WHICH A SEDIMENT BASIN IS NOT PROVIDED. A WRITTEN JUSTIFICATION AS TO WHY 67 CUBIC YARDS OF STORAGE IS NOT ATTAINABLE MUST ALSO BE GIVEN. WORKSHEETS FROM THE MANUAL MUST BE INCLUDED FOR STRUCTURAL BMPs AND ALL CALCULATIONS USED BY THE DESIGN PROFESSIONAL TO OBTAIN THE REQUIRED SEDIMENT STORAGE WHEN USING EQUIVALENT CONTROLS. WHEN DISCHARGING FROM SEDIMENT BASINS AND IMPOUNDMENTS, PERMITTEES ARE REQUIRED TO UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SURFACE. UNLESS INFEASIBLE, IF OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SURFACE ARE NOT FEASIBLE, A WRITTEN JUSTIFICATION EXPLAINING THIS DECISION MUST BE INCLUDED IN THE PLAN.

TOTAL SEDIMENTATION STORAGE CALCULATIONS

SEDIMENTATION STORAGE REQUIRED DRAINAGE BASIN No. 1

TOTAL DRAINED ACRES 29.87 AC * 67 = 2001 CY

SEDIMENTATION STORAGE AVAILABLE DRAINAGE BASIN No. 1

SEDIMENTATION STORAGE Sd1-S = 1027 LF * 0.1675 CY/LF = 172 CY
 SEDIMENTATION STORAGE Sd3 = 1926 CY (FROM STAGE/STORAGE CURVE)
 SEDIMENTATION STORAGE Cd-S = 8 Cd * 7.8 CY/Cd = 62 CY
 SEDIMENTATION STORAGE Cd-S = 12 Cd * 7.5 CY/Cd = 90 CY
 SEDIMENTATION STORAGE Cd-S = 8 Cd * 9.5 CY/Cd = 76 CY

TOTAL SEDIMENTATION STORAGE AVAILABLE = 2326 CY

SEDIMENTATION STORAGE REQUIRED DRAINAGE BASIN No. 2

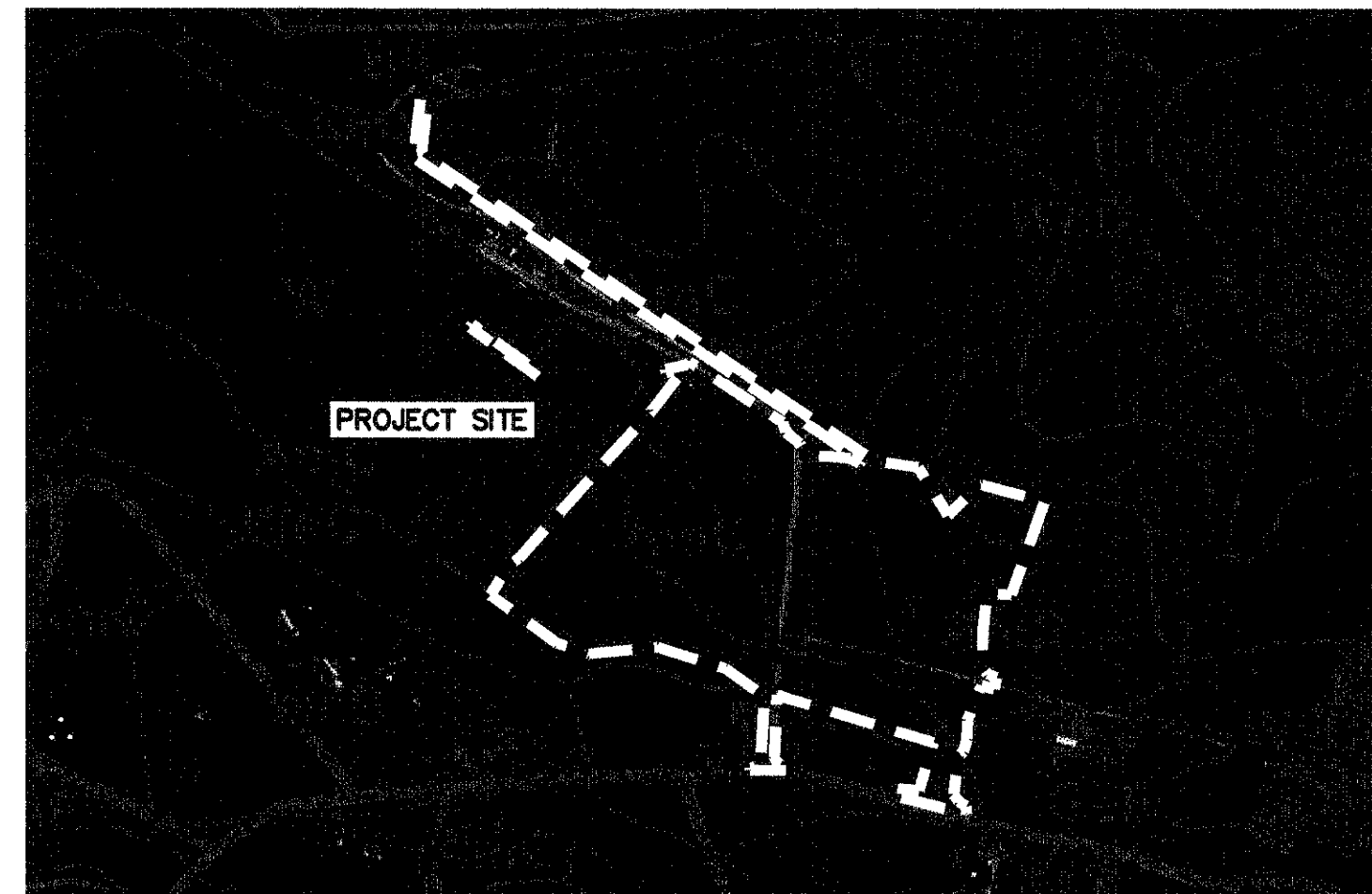
TOTAL DRAINED ACRES 0.58 AC * 67 = 39 CY

SEDIMENTATION STORAGE AVAILABLE DRAINAGE BASIN No. 2

SEDIMENTATION STORAGE Sd1-S = 320 LF * 0.1675 CY/LF = 54 CY

TOTAL SEDIMENTATION STORAGE AVAILABLE = 54 CY

49. LOCATION OF BEST MANAGEMENT PRACTICES THAT ARE CONSISTENT WITH AND NO LESS STRINGENT THAN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. USE UNIFORM CODING SYMBOLS FROM THE MANUAL, CHAPTER 6, WITH LEGEND. LOCATION OF BMPs ARE SHOWN ON SHEETS 72 THROUGH 74. A LEGEND OF THE CODING SYMBOLS FROM THE MANUAL, ARE SHOWN ON SHEETS 72 THROUGH 74.
50. PROVIDE DETAILED DRAWINGS FOR ALL STRUCTURAL PRACTICES. SPECIFICATIONS MUST AT A MINIMUM MEET THE GUIDELINES SET FORTH IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. SEE DETAILS ON SHEET 77.
51. PROVIDE VEGETATIVE PLAN, NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES. INCLUDE SPECIES, PLANTING DATES AND SEEDING, FERTILIZER, LIME AND MULCHING RATES. VEGETATIVE PLAN SHALL BE SITE SPECIFIC FOR APPROPRIATE TIME OF YEAR THAT SEEDING WILL TAKE PLACE AND FOR THE APPROPRIATE GEOGRAPHIC REGION OF GEORGIA. SEE THIS SHEET AND SHEETS 72 THROUGH 74.



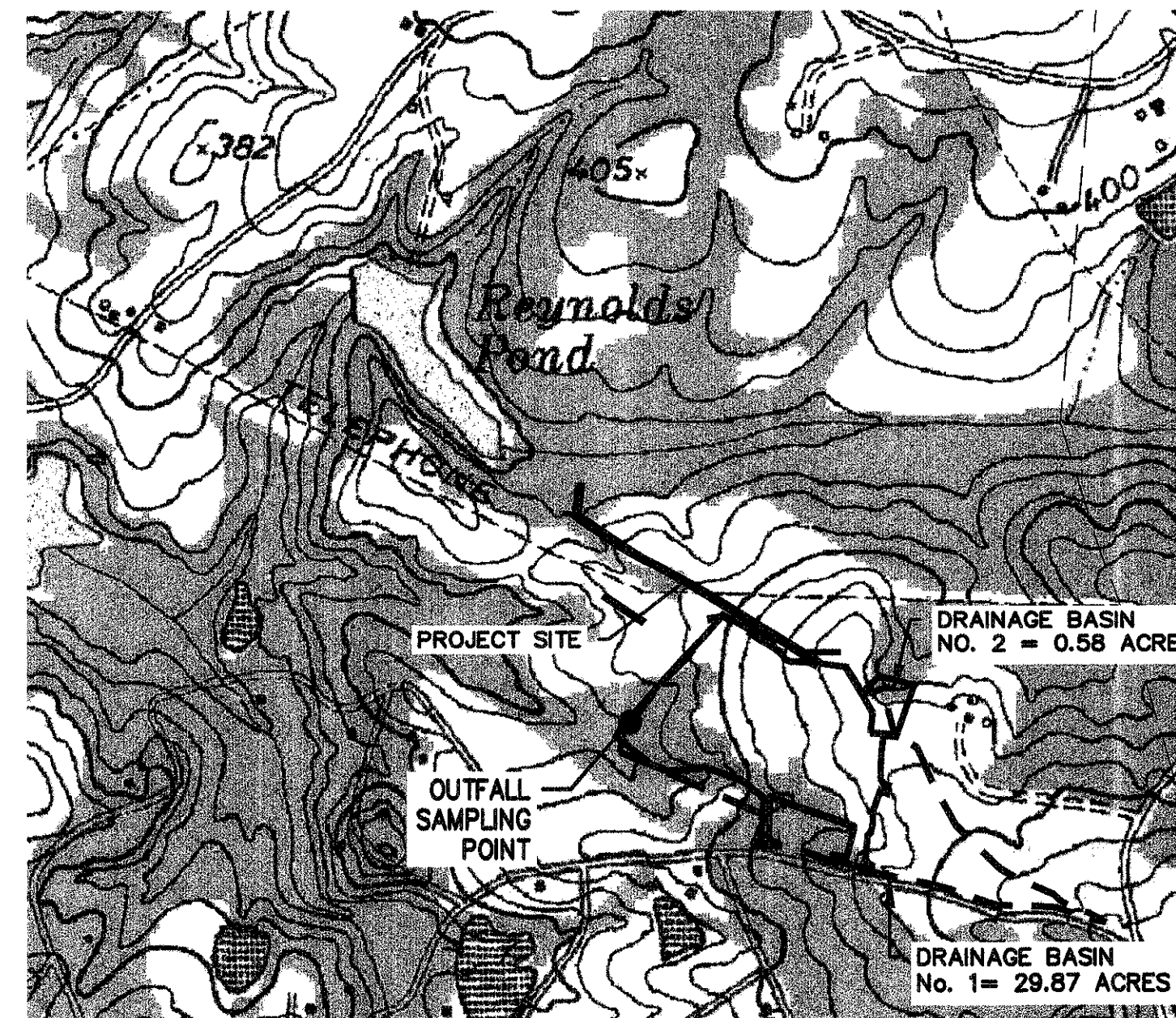
SOILS MAP
SCALE 1"=500'

Map Unit Symbol	Map Unit Name
AmB	Appling sandy loam, 2 to 6 percent slopes
AmC	Appling sandy loam, 6 to 10 percent slopes
Bh	Bibb silt loam
GeB	Grover sandy loam, 2 to 6 percent slopes
GeC	Grover sandy loam, 6 to 10 percent slopes
GeD	Grover sandy loam, 10 to 15 percent slopes
MgD	Madison-Grover complex, 6 to 15 percent slopes
NhB	Norfolk loamy sand, 2 to 6 percent slopes
NhC	Norfolk loamy sand, 6 to 10 percent slopes
OcB	Orangeburg sandy loam, 2 to 6 percent slopes
OcC	Orangeburg sandy loam, 6 to 10 percent slopes
TfB	Tifton loamy sand, 2 to 6 percent slopes
TfC	Tifton sandy loam, 6 to 10 percent slopes
TwC	Troup sand, 2 to 10 percent slopes
VeB	Vaughan loamy coarse sand, 2 to 6 percent slopes
VeD	Vaughan loamy coarse sand, 6 to 15 percent slopes
W	Water
WaB	Wagram loamy sand, 2 to 6 percent slopes
WaC	Wagram loamy sand, 6 to 10 percent slopes
WaD	Wagram loamy sand, 10 to 15 percent slopes
WeB	Wedowee loamy sand, 2 to 6 percent slopes
WeC	Wedowee loamy sand, 6 to 10 percent slopes
WeD	Wedowee loamy sand, 10 to 15 percent slopes
WeE	Wedowee loamy sand, 15 to 25 percent slopes

SOUTHERN PIEDMONT VEGETATIVE COVERS

MONTH	[DS2] TEMPORARY SEED	RATE \ ACRE	[DS3] PERMANENT SEED	RATE \ ACRE
1. January	Rye Ryegrass, Annual	3 bu. 40 lbs.	Bahia, Pensacola Bermuda (Unhulled)	60 lbs. 10 lbs.
2. February	Rye Ryegrass, Annual	3 bu. 40 lbs.	Bahia, Pensacola Bermuda (Unhulled)	60 lbs. 10 lbs.
3. March	Lovegrass, Weeping Ryegrass, Annual Sudangrass	4 lbs. 40 lbs. 60 lbs.	Bahia, Pensacola Bermuda (Hulled)	60 lbs. 10 lbs.
4. April	Lovegrass Millet, Browntop Millet, Pearl Sudangrass	4 lbs. 40 lbs. 40 lbs. 40 lbs.	Bahia, Pensacola Bahia, Wilmington Bermuda (Unhulled) Centipede Lespedeza	60 lbs. 60 lbs. 10 lbs. Block Sod 75 bs.
5. May	Lovegrass, Weeping Millet, Browntop Millet, Pearl Sudangrass	4 lbs. 40 lbs. 50 lbs. 60 lbs.	Bahia, Pensacola Bahia, Wilmington Bermuda (Unhulled) Centipede Lespedeza	60 lbs. 60 lbs. 10 lbs. Block Sod 75 bs.
6. June	Millet, Browntop Millet, Pearl Sudangrass	40 lbs. 50 lbs. 60 lbs.	Bahia, Pensacola Bahia, Wilmington Bermuda (Unhulled) Centipede Lespedeza	60 lbs. 60 lbs. 10 lbs. Block Sod 75 bs.
7. July	Millet, Pearl Sudangrass	50 lbs. 60 lbs.	Bahia, Pensacola Bahia, Wilmington	60 lbs. 60 lbs.
8. August	Millet, Pearl Ryegrass, Annual	50 lbs. 40 lbs.	Bahia, Pensacola Bahia, Wilmington Fescue, Tall	60 lbs. 60 lbs. 50 lbs.
9. September	Oats Rye Ryegrass, Annual	4 bu. 3 bu. 40 lbs.	Bahia, Pensacola Bahia, Wilmington Fescue, Tall	60 lbs. 60 lbs. 50 lbs.
10. October	Barley Oats Rye Ryegrass, Annual	3 bu. 4 bu. 3 bu. 40 lbs.	Bahia, Pensacola Bahia, Wilmington Bermuda (Unhulled) Lespedeza	60 lbs. 60 lbs. 10 lbs. 60 bs.
11. November	Barley Oats Rye Ryegrass, Annual	3 bu. 4 bu. 3 bu. 40 lbs.	Bahia, Pensacola Bahia, Wilmington Bermuda (Unhulled) Lespedeza	60 lbs. 60 lbs. 10 lbs. 60 bs.
12. December	Rye Ryegrass, Annual	4 bu. 3 bu.	Bahia, Pensacola Bahia, Wilmington Bermuda (Unhulled) Lespedeza	60 lbs. 60 lbs. 10 lbs. 60 bs.

NOTE: TYPE OF GRASS APPLIED SHALL BE DETERMINED BY SITE COMPATIBLE CONDITIONS AND OWNER DISCRETION. SHOULD CONSTRUCTION EXTEND BEYOND THE ALLOTTED TIME, THE CONTRACTOR SHALL REFER TO THE ENGINEER AND THE GEORGIA MANUAL FOR EROSION AND SEDIMENT CONTROL FOR SEED SPECIFICATIONS.



STORMWATER MONITORING PLAN
SCALE 1"=800'

LEGEND

WATERSHED	---
WATER SAMPLING POINT	●
LOCATION	---
PROJECT SITE	---

CONSTRUCTION SCHEDULE 2017 - 2018

ACTIVITY DESCRIPTION	MONTH																							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
INITIAL MEASURES																								
INSTALLATION OF INITIAL PERIMETER SE&SC MEASURES																								
INTERM. MEASURES																								
CLEARING & GRUBBING																								
CONSTRUCTION OF SEDIMENTATION BASINS																								
PRELIMINARY GRADING																								
CONSTRUCTION TEMPORARY GRASSING																								
FINAL GRADING																								
PERMANENT GRASSING																								
REMOVE TEMPORARY MEASURES																								

*TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL PERMANENT GRASSING IS ESTABLISHED

APPROX. START DATE

VEGETATIVE COVER

ALL BARE AREAS RESULTING FROM CONSTRUCTION OPERATIONS WILL BE ESTABLISHED TO VEGETATION AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETE AS FOLLOWS:

A. TEMPORARY/ INTERMEDIATE GRASSING - (Ds2, REQUIRED ON AREAS TO BE EXPOSED)

SEEDBED PREPARATION - FINISH GRADE ACCORDING TO PLANS. REMOVE LARGE ROCKS OR OTHER OBJECTS THAT WILL INTERFERE WITH VEGETATION ESTABLISHMENT.

FERTILIZER - APPLY AGRICULTURAL LIME AT THE RATE OF 1 TO 2 TONS PER ACRE. SPREAD LIME AND FERTILIZER UNIFORMLY OVER SURFACE.

SEEDING - SEE CHART

B. PERMANENTLY EXPOSED AREAS - (Ds3, FINISH GRADES)

INITIAL TREATMENT:

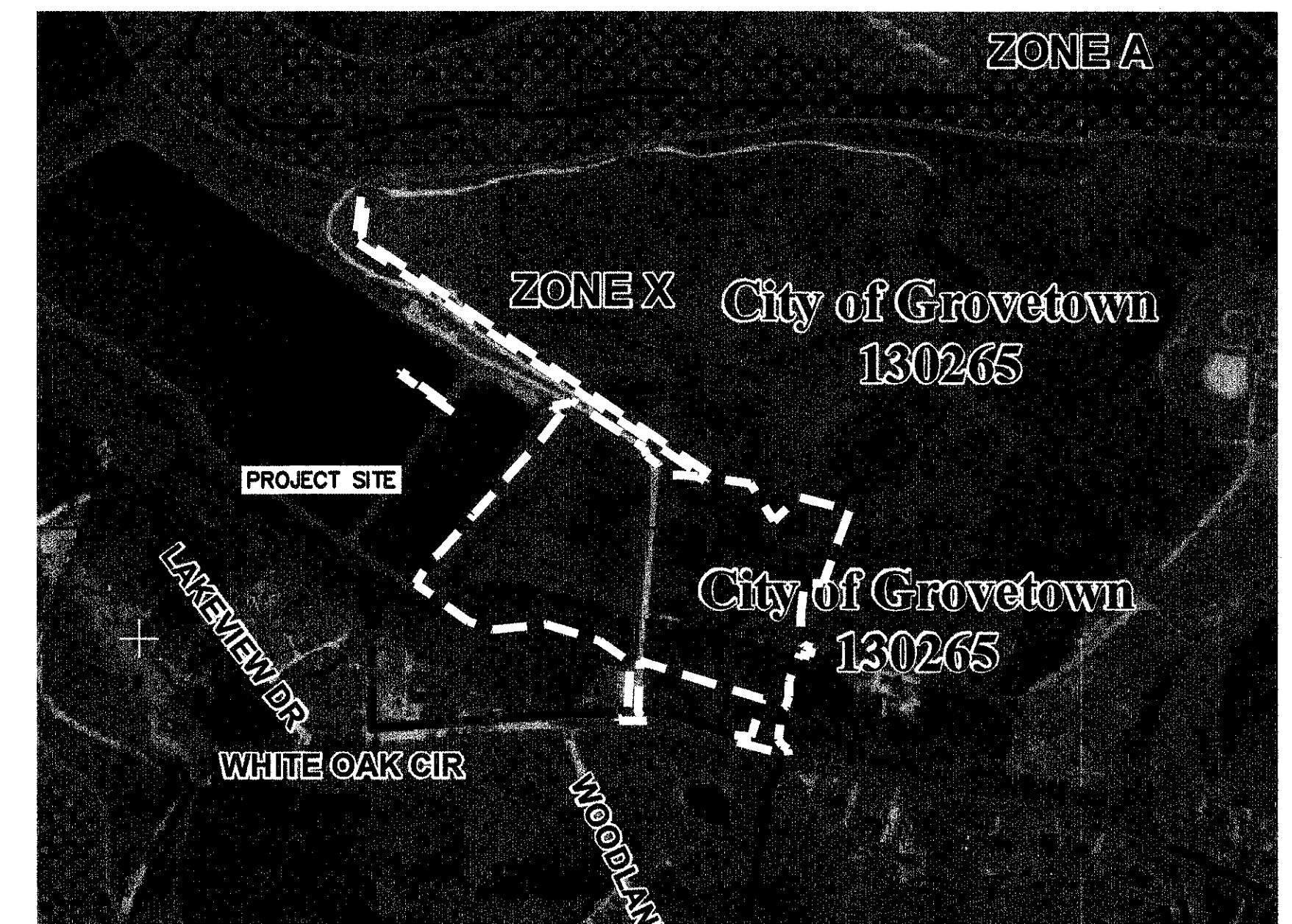
SEEDING PREPARATION - PREPARE SEEDBED TO DEPTH OF AT LEAST 4-INCHES ON ALL AREAS WHERE A GOOD SEEDBED IS NOT PRESENT. REMOVE ROCKS, ROOTS AND OTHER OBJECTS THAT WILL INTERFERE WITH VEGETATION ESTABLISHMENT OR MAINTENANCE OPERATIONS.

FERTILIZER - APPLY AGRICULTURE LIME AT MINIMUM RATE OF 1 TO 2 TONS PER ACRE. APPLY 1500 POUNDS 6-12-12 ANALYSIS FERTILIZER (OR EQUIVALENT) PER ACRE. SPREAD LIME AND FERTILIZER UNIFORMLY OVER ALL AREAS IMMEDIATELY BEFORE FINAL LAND PREPARATION AND MIX WITH THE SOIL. APPLY TOP DRESSING OF 50-100 POUNDS PER ACRE OF AMMONIUM NITRATE (OR EQUIVALENT) WHEN PLANTS ARE 2 TO 4-INCHES TALL.

SEEDING - SEE CHART

SEED WILL BE DISTRIBUTED UNIFORMLY OVER THE AREA AND COVERED TO A DEPTH OF ABOUT 1/4 INCH. IF AREA IS TO BE SPRIGGED, PLANT ONLY FRESHLY DUG SPRIGS AND KEEP THEM COOL AND MOIST UNTIL PLANTED. FIRM SEED OR SODDED AREAS WITH CULTIPACKER OR ROLLER IMMEDIATELY FOLLOWING PLANTING.

MULCHING - ALL UNSEEDED SLOPES STEEPER THAN 3 PERCENT AND ALL SEEDING AREAS WILL BE MULCHED IMMEDIATELY AFTER SPREADING UNIFORMLY DRY STRAW OR HAY, FREE OF COMPETING WEEDS, AT THE RATE OF ABOUT 2.5 TONS PER ACRE OR TO COVER APPROXIMATELY 75 PERCENT OF THE GROUND SURFACE. WHEN FEASIBLE, ANCHOR MULCH WITH A PACKED OR DISK HARROW WITH BLADES SET STRAIGHT OR WITH EMULSIFIED ASPHALT (GRADE A65 OR S61) AT RATE OF 100 GALLONS EMULSION MIXED WITH 100 GALLONS WATER FOR EACH TON OF MULCH.



FLOODPLAIN MAP
SCALE 1"=500'

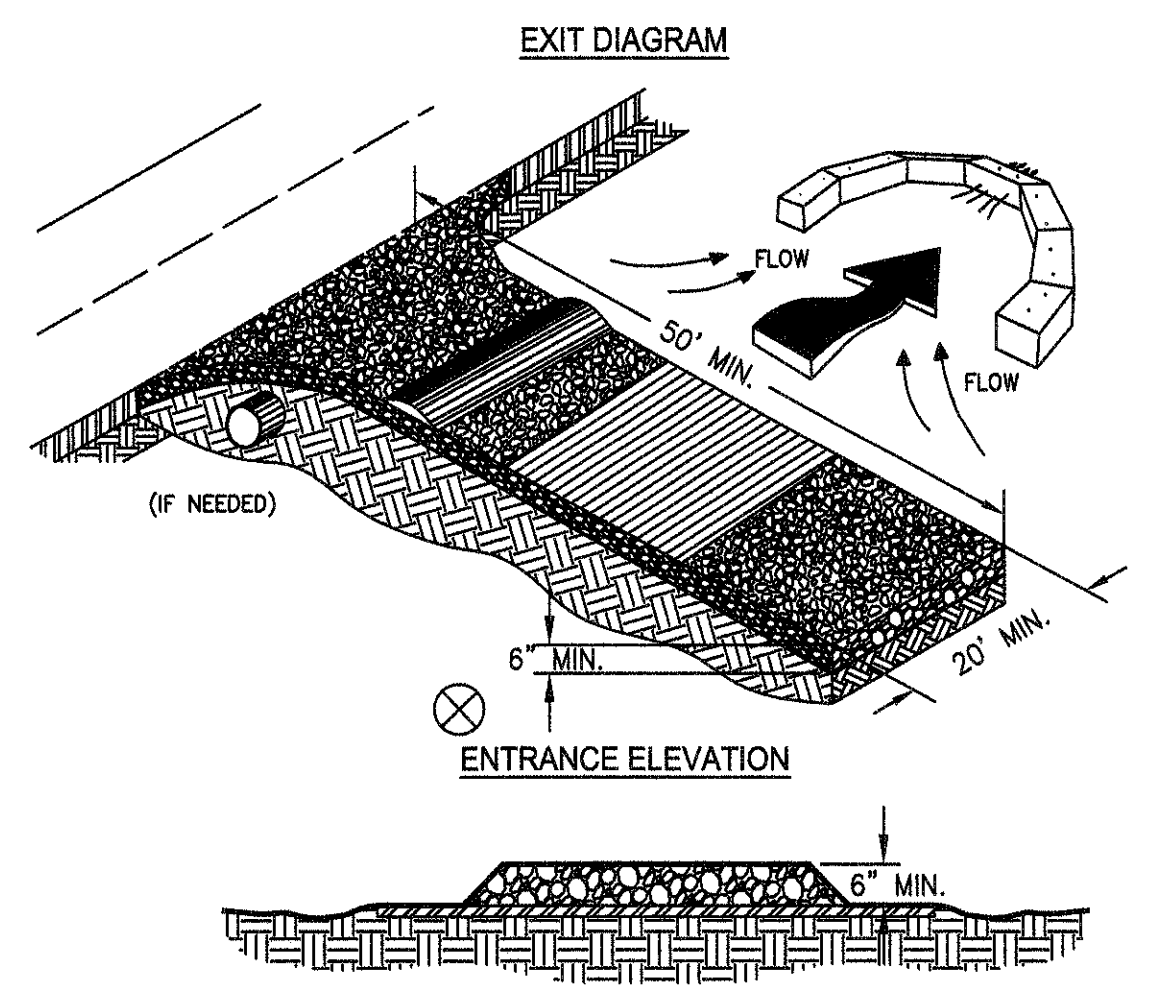
MULCHING REQUIREMENTS, [DS1]

MATERIAL	RATE	DEPTH
STRAW OR HAY	2 1/2 TON/ACRE	6" to 10"
WOOD WASTE CHIPS, SAWDUST, BARK	6 TO 9 TON/ACRE	2" to 3"
POLYETHYLENE FILM	SECURE WITH SOIL, ANCHORS, WEIGHTS	---
CUTBACK ASPHALT	SEE MANUFACTURER'S RECOMMENDATIONS	---
GEOTEXTILES, JUTE MATTING, NETTING, ETC.	SEE MANUFACTURER'S RECOMMENDATIONS	---

REVISIONS	CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017	WATER POLLUTION CONTROL PLANT - PHASE II	
EROSION SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST		
DRAWN	CHECKED	SCALE: AS SHOWN DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic ATLANTA - AUGUSTA - ST. SIMONS ISLAND, GEORGIA
GSWCC CERTIFICATION NO. 17551		SHEET 76 OF 77

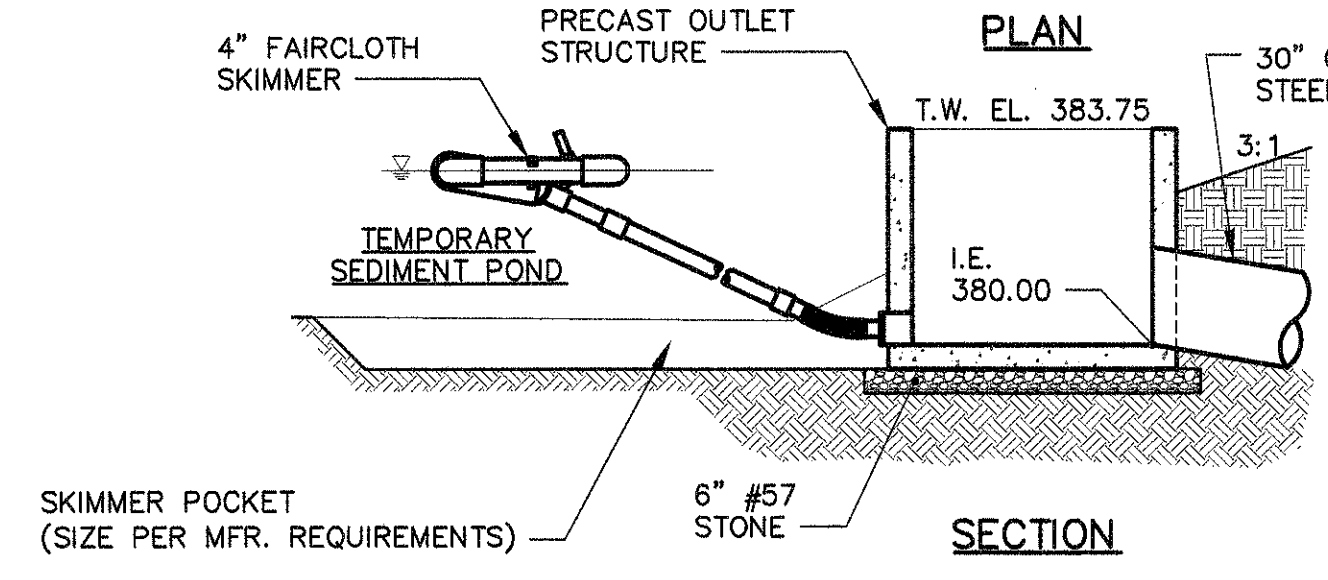
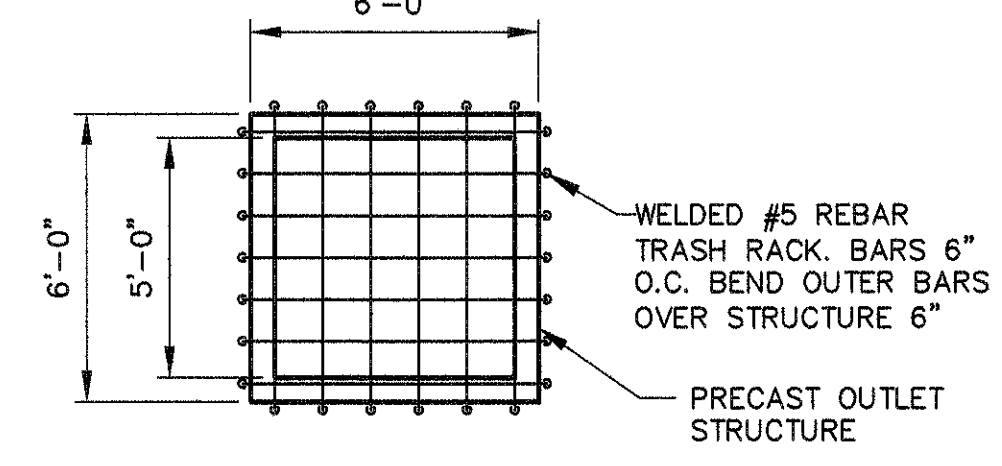


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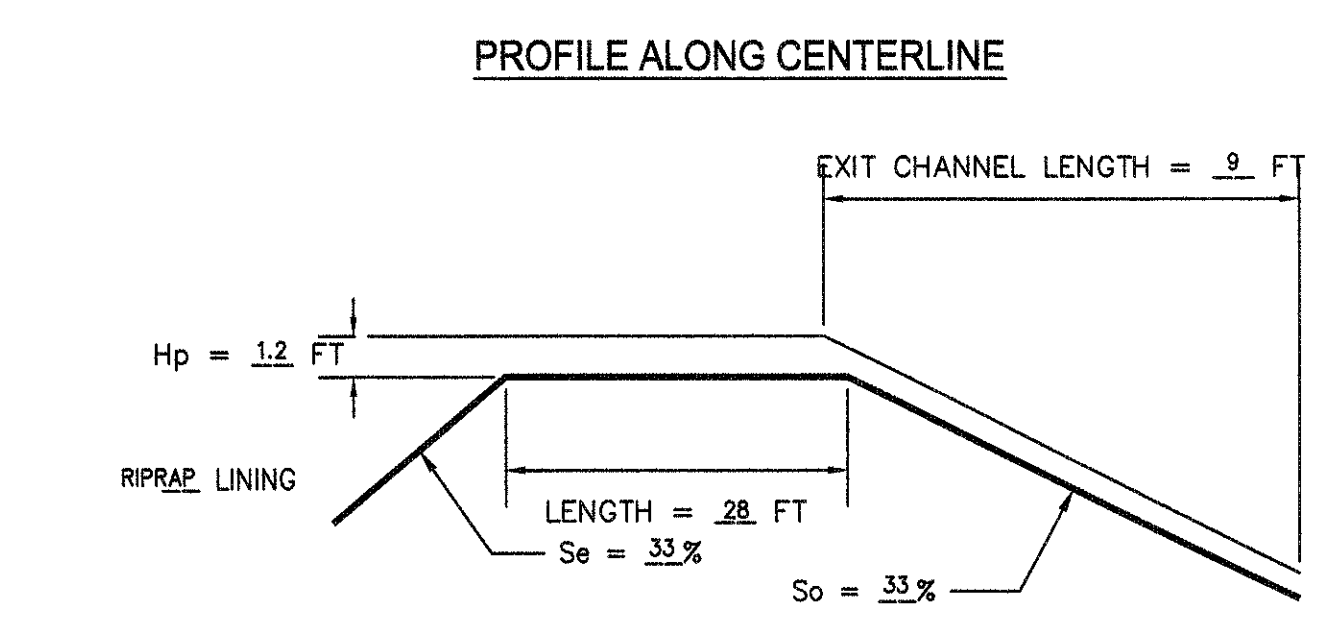
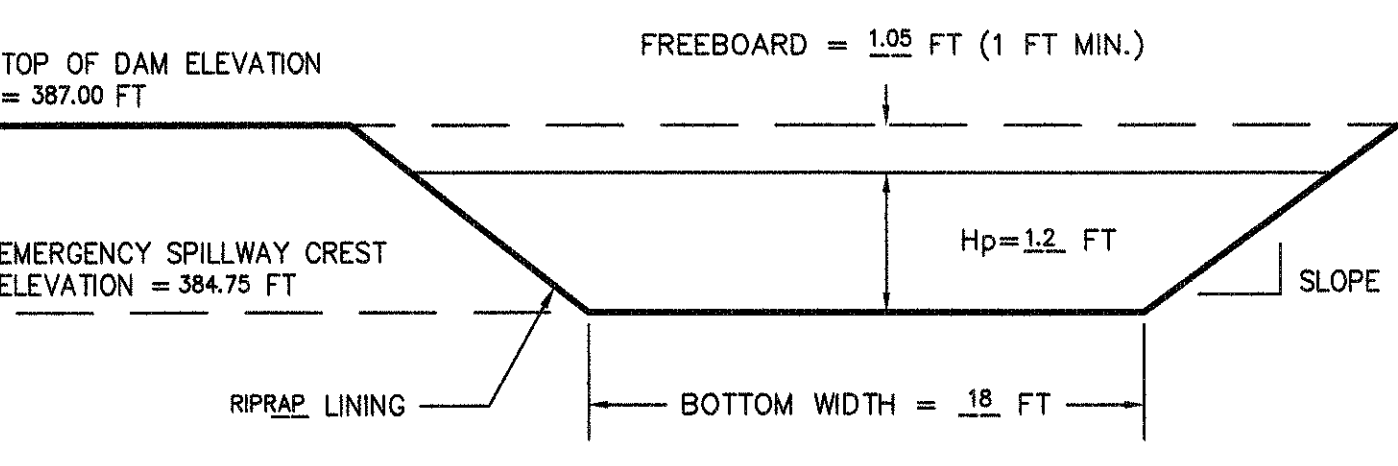


- NOTES:**
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
 5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
 6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
 7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
 8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
 9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
 10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

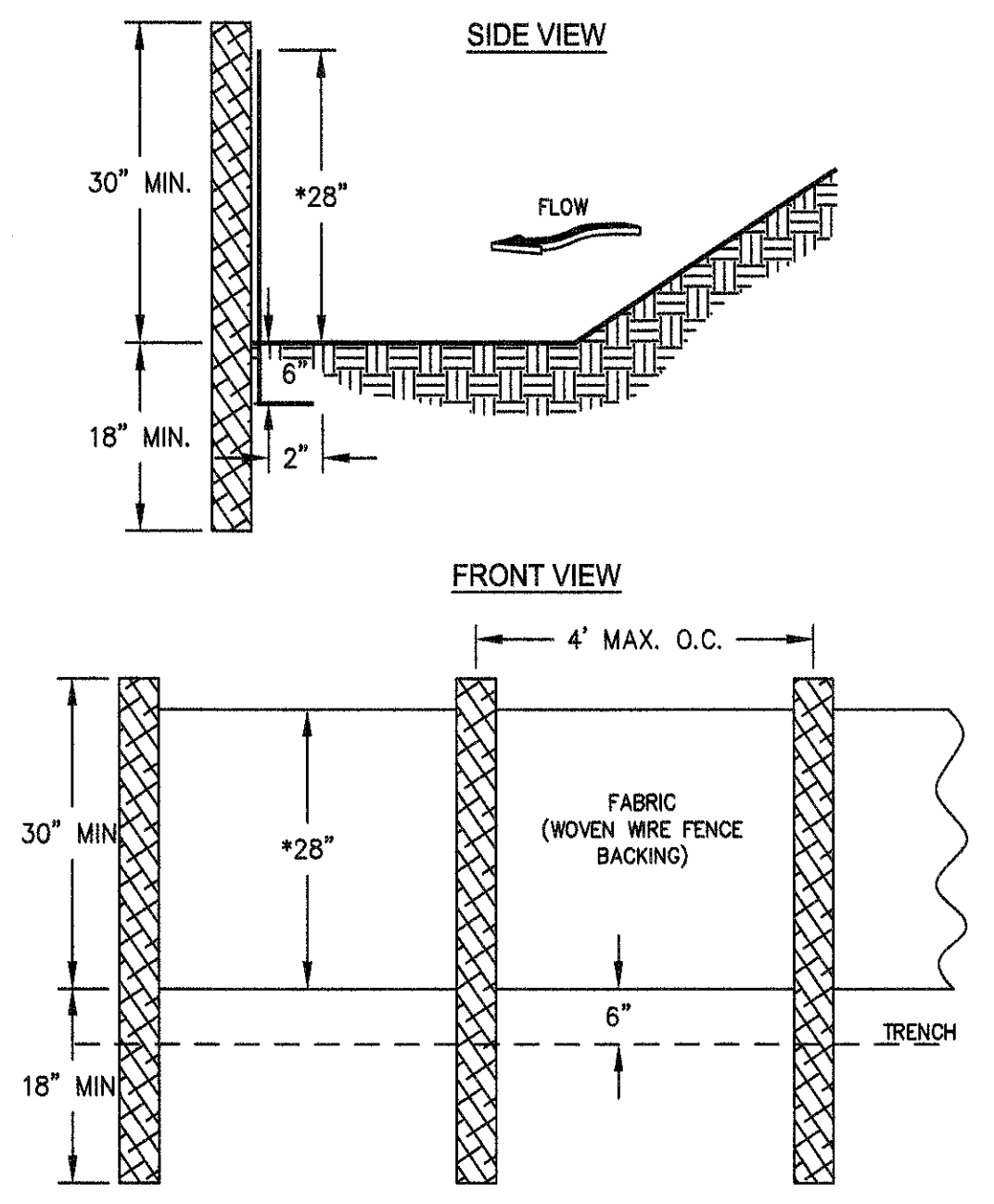
Co CONSTRUCTION EXIT
N.T.S.



Sk SKIMMER DETAIL
N.T.S.

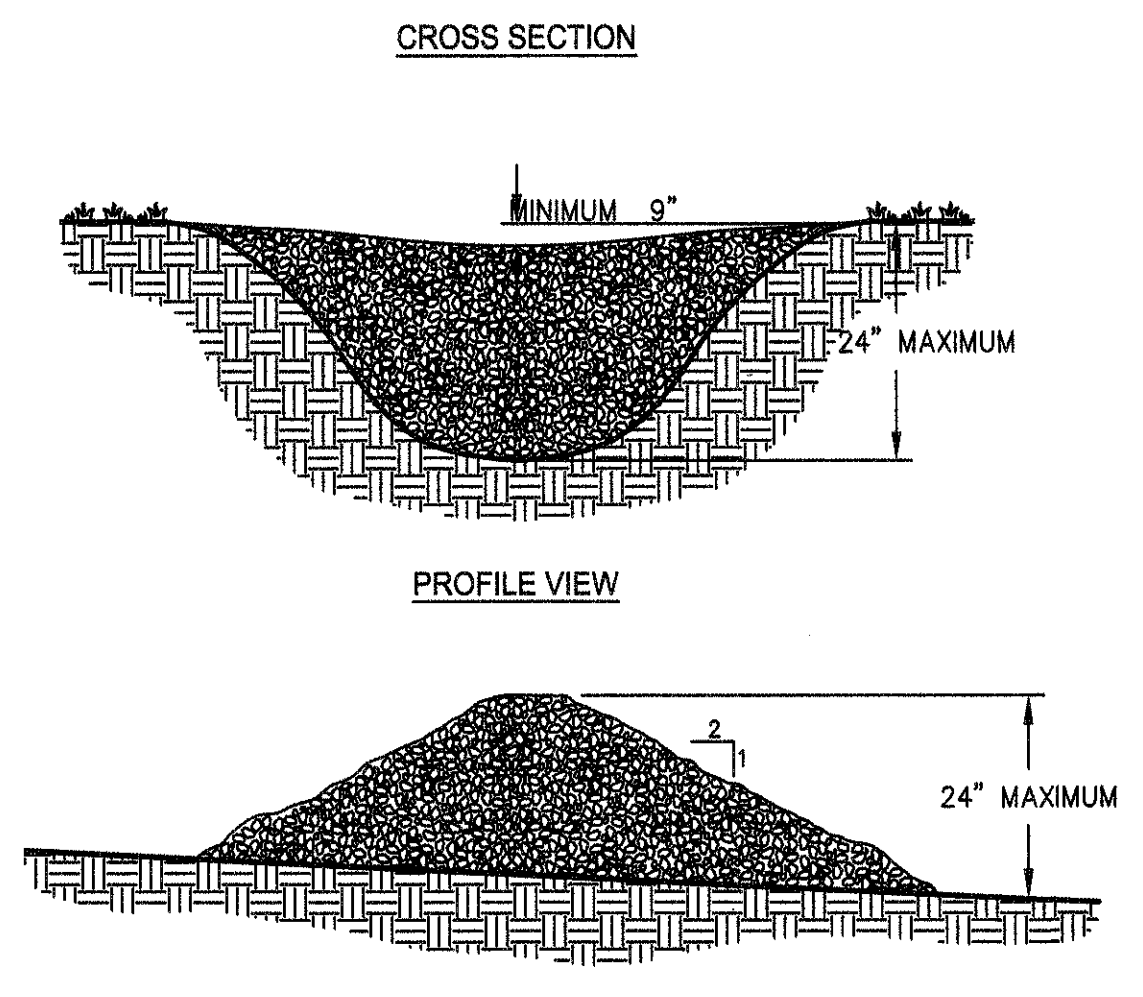


EMERGENCY SPILLWAY

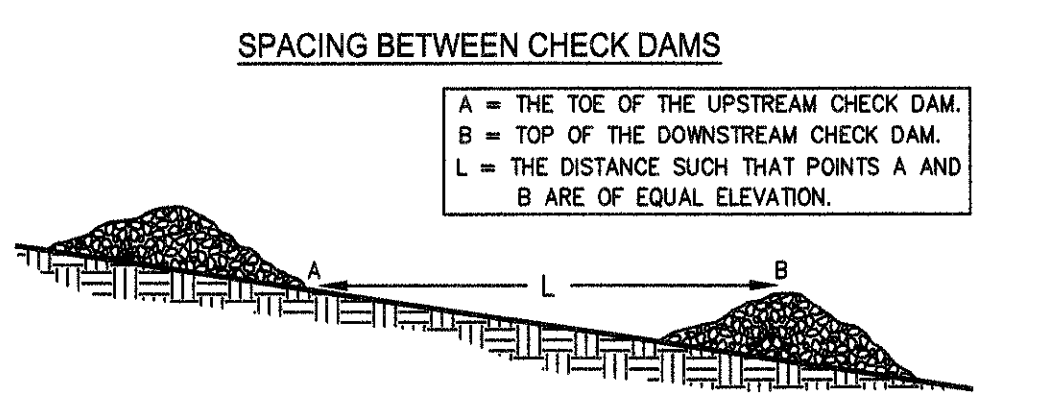


- NOTES:**
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 2. HEIGHT (H) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

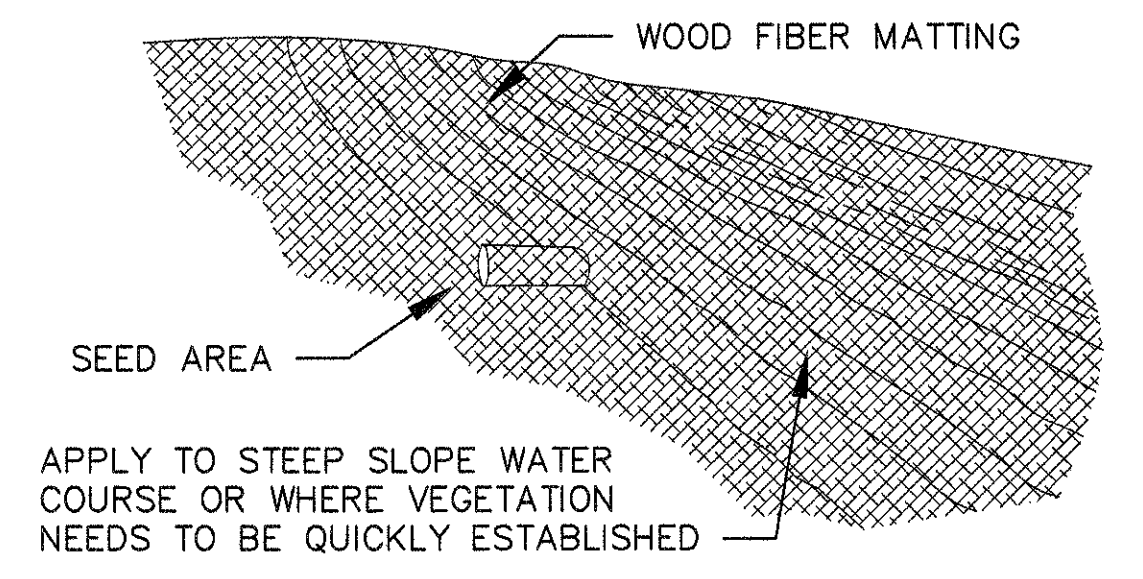
Sd1-S SEDIMENT BARRIER DETAIL
N.T.S.



- NOTES:**
1. CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
 2. THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
 3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
 4. THE DAM HEIGHT SHOULD BE A MAXIMUM OF 2 FEET FROM CENTER TO RIM EDGE.
 5. THE SIDE SLOPES OF THE CHECK DAM SHALL NOT EXCEED A 2:1 SLOPE.
 6. GEOTEXTILE SHALL BE USED TO PREVENT THE MITIGATION OF SUBGRADE SOIL PARTICLES INTO THE STONES (REFER TO AASHTO M288-96, SECTION 7.3, TABLE 3).

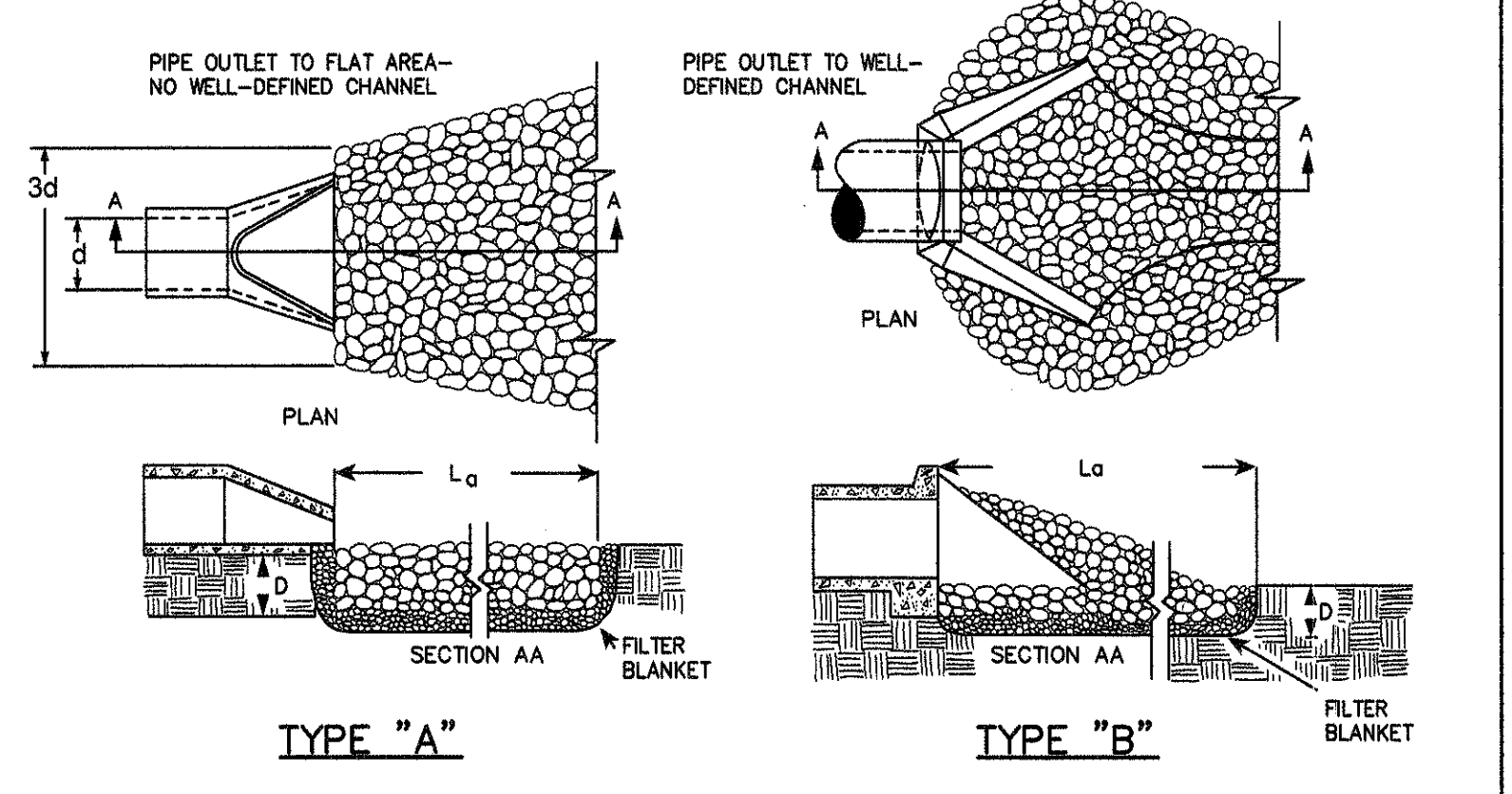


Cd-S CHECK DAM - STONE
N.T.S.

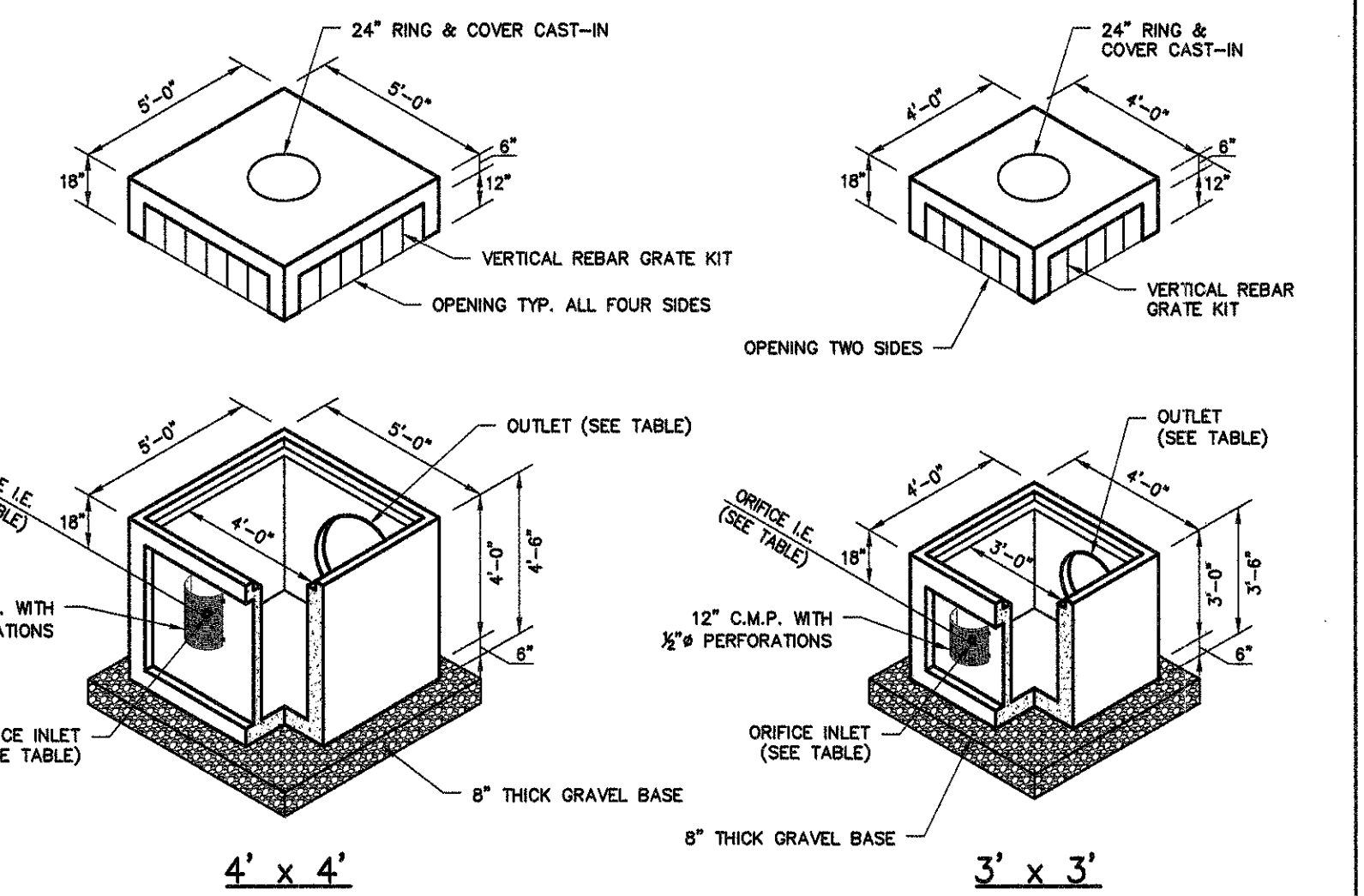


Ss SLOPE STABILIZATION
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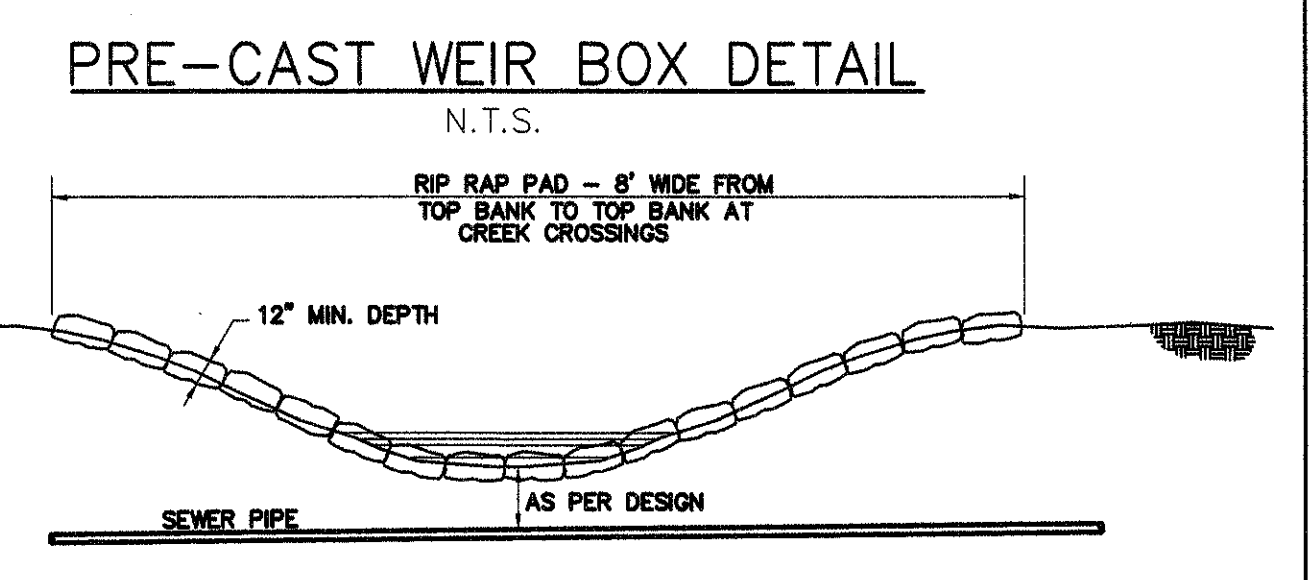
- NOTES:**
1. L₀ IS THE LENGTH OF THE RIPRAP APRON.
 2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
 3. IN A WELL DEFINED CHANNEL EXTEND THE BANKS TO AN ELEVATION 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
 4. A FILTER BLANKET OR FILTER FABRIC IS REQUIRED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.



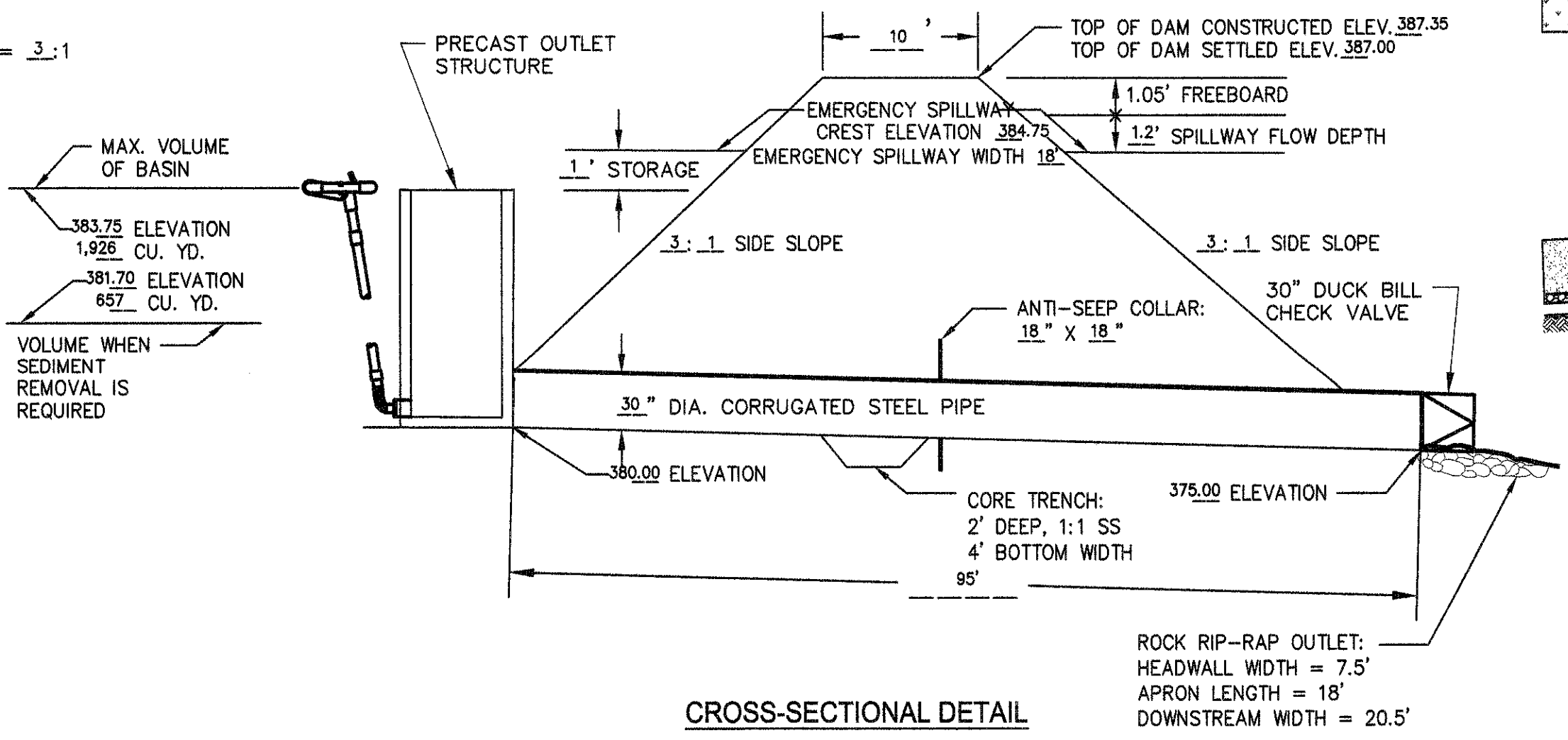
St STORM DRAIN OUTLET PROTECTION DETAIL
N.T.S.



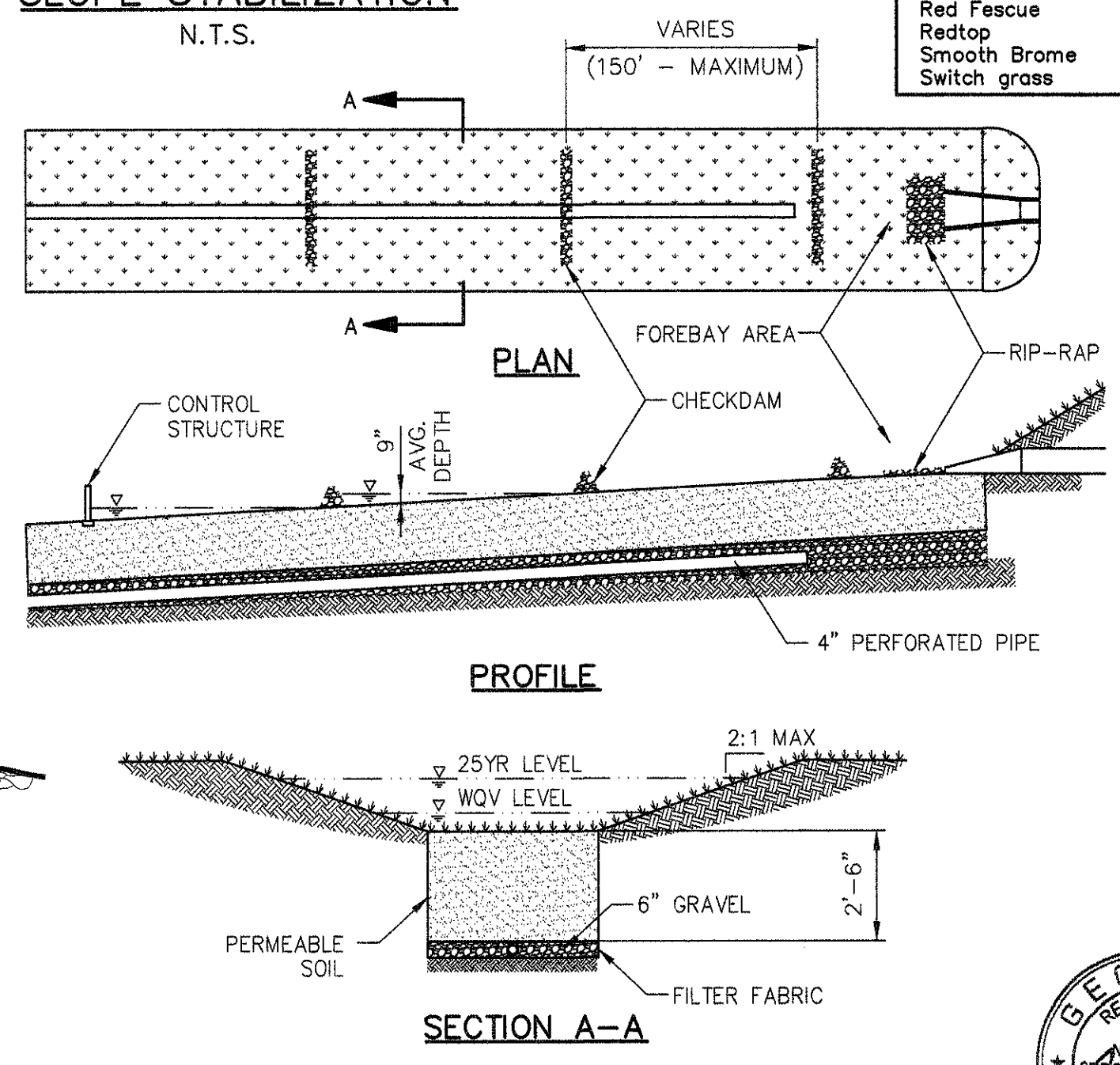
PRE-CAST WEIR BOX STRUCTURE TABLE					
STRUCTURE ID	BOX DIMENSIONS	ORIFICE DIAMETER	ORIFICE I.E.	OUTLET PIPE DIAMETER	OUTLET PIPE I.E.
SW-1 WB	4' x 4'	3"	376.00	24"	375.90
SW-2 WB	3' x 3'	2"	375.00	18"	374.90
SW-3 WB	3' x 3'	2"	399.00	15"	398.90
SW-4/5 WB	3' x 3'	1"	430.50	12"	430.40



Rp RIP-RAP DETAIL
N.T.S.



Sd-3 TEMPORARY SEDIMENT BASIN
N.T.S.



ENHANCED SWALE
N.T.S.

REVISIONS		CITY OF GROVETOWN, GEORGIA SEWERAGE SYSTEM IMPROVEMENTS	
04/2017		WATER POLLUTION CONTROL PLANT - PHASE II	
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DRAWN	CHECKED	SCALE: AS SHOWN	DATE: JANUARY 2017
GKA	CKB	G. BEN TURNIPSEED ENGINEERS Environmental - Civil - Hydraulic	
GSWCC CERTIFICATION NO. 17551		SHEET 77 OF 77	

